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## ORIGINAL LECTURES.

### CLINICAL LECTURE

#### ON CASES ILLUSTRATING HYPERTROPHIC ELONGATION OF THE ISTHMUS CERVICIS, AND UTERINE FIBROID.

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*Clinic held May 19, 1886.*

**GENTLEMEN**,—Our first case is that of a married woman, about 40 years of age, who has borne several children. She has a disease with a long name,—hypertrophic elongation of the supra-vaginal portion of the cervix of the uterus,—which is, however, by no means an uncommon affection. It is present in many women who are supposed to be suffering with prolapse of the uterus.

The original cause of this disease is generally some injury, and the most common form of injury giving rise to it is laceration of the cervix during childbirth. It is, therefore, as a rule, a disease of married women who have had children, but not exclusively, for I have seen it in aged virgins. Just here I may mention that in these cases it has a different appearance. In married women who have borne children the projecting cervix resembles the snout of a pig; in the virgin, on the contrary, the conical cervix, with its small os, looks exactly like the male organ in a state of erection; this at least has been the case in the few cases I have seen in virgins or married women who have not borne children.

The persons who are most subject to this condition are those who have to lift weights at a disadvantage. For instance, take a cook who has a laceration of the cervix to begin with. The denuded portion of the cervix rubs against the vaginal wall, keeping up irritation and attracting an increased blood-supply and more or less inflammatory deposit, making the cervix larger and heavier than normal. Cell-growth is stimulated, hypertrophy occurs, and the force of gravity constantly pulls upon the cervix. While in this condition,

the cook has to lift a pot of potatoes from the fire, in doing which she contracts her abdominal muscles and depresses the diaphragm, thus tending to force the cervix down still farther into the vagina and finally cause its extrusion. The washer-woman, also, who has to lift heavy baskets of clothes, is very subject to this malady. Indeed, it is among persons who have to work hard that you will find it almost without exception. It is exceedingly rare among women of means. I recall only one case in a person in affluent circumstances, and I found in that case that during a former period of her life she had been obliged to labor very hard.

How shall such cases be treated? Pessaries in such a condition are a delusion and a snare. No pessary can be retained when the cervix projects from the body and the vagina is turned inside out like a stocking; but when the disease has just begun, you may be able to support the uterus by inserting the Hodge pessary reversed; that is, with the curved end to the front. If the patient can bear this, it may be of service in keeping up the cervix; in the later stage, however, it will not answer. Some cases may now be benefited by wearing a supporter, the cervix being held in a cup-shaped receptacle on the end of a stem, fastened to straps attached to a belt passing around the waist. If the disease has not progressed far, this also may serve the purpose, but if it has advanced beyond a certain point such a pessary will do harm, because it pushes up into the vagina a hypertrophied and elongated cervix, and the pressure cannot be borne. Next comes the question of operation. Which operation shall be selected? Since Dr. Emmet brought before the profession his method of operating for laceration of the cervix, general attention has been called to this condition, and physicians everywhere have been taught to recognize it, and to operate as a matter of duty. As a result, the condition which you see in this patient is much less common than it used to be. (Patient etherized.)

Here you observe a snout-like projection from the vulva protruding between the woman's thighs. She has trouble in urinating, and I will explain why it occurs. The bladder has been brought down with the inverted vagina, and now is in front of this hypertrophied cervix. The urethra,

which normally passes through the triangular ligament in a curve with the concavity to the front, now has its relations reversed, so that it is convex to the front, and passes backward and downward to reach the bladder; after leaving the triangular ligament it is bent at an angle backward, and this makes it difficult for the patient to empty her bladder. I will demonstrate this to you by introducing a sound through the urethra into the bladder. You see that, instead of going upward and to the front, it turns abruptly to the back, and you observe the sound moving about in the bladder on the front of this fleshy mass.

In these cases the canal of the uterus usually measures five inches. I have seen it seven. In this patient the sound enters to the depth of five and a half inches. You notice that in reality the vaginal portion of the cervix is not elongated; if anything, it is rather shortened and clubbed. We find the supra-vaginal portion decidedly hypertrophied and elongated. This portion of the cervix—the isthmus, as it is called—contains few muscular fibres, and is mainly fibrous tissue. The cervix has been lacerated; it has become enlarged and increased in weight, thus producing traction upon the parts above. The fundus being kept up by the ligaments, the portion between the cervix proper and the fundus becomes stretched, elongated, and hypertrophied. The vagina is completely everted, and the perineum is functionally imperfect.

One object sought to be attained by the operation is to promote absorption. Two operations will be needed: first, amputation of the vaginal portion of the cervix; and, secondly, one to restore the perineum. I prefer not to do both simultaneously, as it is too much to perform two such operations upon a patient at one sitting. I have done so when circumstances demanded it; but, when I have a choice, I prefer to amputate the cervix first, and to leave the perineum for some future operation.

When complete prolapse of the uterus occurs, the broad ligament yielding so as to permit the fundus to come outside the body, there will occur a secondary atrophy of the uterus, and instead of the canal measuring five and a half inches, it will measure only three and a half, owing to absorption and the absence of traction.

In proceeding to amputate a part of this cervix, it is well to bear in mind the limits of the bladder in front, and of Douglas's pouch on the posterior surface. The bladder we can determine with the sound, but there is no criterion with regard to the posterior *cul-de-sac*, and we may open it. Almost every gynecologist has cut into it; as you will remember, I did last week in a case of cancer, where I extirpated the entire uterus. Having found the lower border of the bladder, a straight needle armed with a double silk ligature is made to pass through from front to back about three-fourths of an inch from the extremity of the cervix. This is to prevent the cervix from escaping from me and getting out of reach. We shall now apply a sort of Esmarch bandage, a rubber tube, wound several times around the uterus above the point of operation, in order to prevent hemorrhage.

I am not sure but that the time may come when it will be considered proper to remove the whole womb for this disease.

Now, with a scalpel, I proceed to amputate the cervix, which I hold with a double tenaculum. I will endeavor to avoid cutting Douglas's pouch, but if I open it I shall sew it up again. I have opened it several times without losing a case; but I should prefer not to expose the peritoneum to the air of this amphitheatre.

You now see the large stump with the os in the middle. This raw surface I shall proceed to cover by using Hegar's stitches, which radiate in every direction from the cervical canal to the circumference. When these stitches are tightened the contraction opens the cervical canal, and the cicatricial tissue which is formed will have the same effect. These stitches are of silver, and are clamped with shot. Wherever there is a tendency to bleed I insert a stitch. You will be astonished to see how much diminution in the size of this uterus will occur in a week's time as a result of the operation. Much of this surface will heal by first intention, but a small part will heal by granulation, which will cause the formation of a cicatrix, and produce subsequent contraction.

The only objection to this operation is that there is a tendency to secondary hemorrhage. In such an event, I should pack the vagina as hard and as tightly as possible. This is more likely to occur where ether has been given.

After removing the rubber bandage, I find several bleeding points, to which I shall apply the Paquelin cautery.

The objection to the amputation by the galvanic wire or the hot knife is that it produces so much cicatricial tissue. It makes the os so small that menstruation is rendered difficult and painful; and it is very hard to remedy it. Here, you observe, the cicatricial contraction will tend to draw the os open, instead of to close it. The small amount of denuded surface which has been left will granulate, and in that process will aid the retrogressive metamorphosis in this hypertrophied cervix. A granulating surface is better for this purpose than union by first intention, but I prefer to have the greater part of the wound to heal by first intention; otherwise the cicatrix would be too dense and hard. In the books this operation appears to be perfect; but in practice a greater or less amount of surface is left to granulate. Two of the wire sutures have been purposely left long in order to pull the uterus down in case of hemorrhage, so as to see where the bleeding comes from. The stitches must all be counted, so that when we come to remove them we shall not leave any, as they are liable to be embedded in the tissues. We shall leave the stitches in for two weeks.

#### UTERINE FIBROID UNDERGOING SPONTANEOUS ENUCLEATION.

This next case has a curious growth from the uterus distending the vagina. There is an offensive purulent discharge, and a suspicion of malignant disease. The diagnosis has not yet been made, and it has puzzled several good physicians. I am afraid that it will prove to be a sarcoma.

In order to make a satisfactory examination it will be necessary to give ether.

Having syringed the vagina with vinegar and water, I proceed to examine the patient, and find that the mass in the vagina has a pedicle from the mucous membrane to which it is attached above. It is a fibroid in a process of self-enucleation. The lower portion filling the vagina is soft and rotten. The growth is fibrous in character. I am now twisting it; and now it comes away in these strong vulsellum forceps.

There may be some bleeding after this: should it occur, I shall introduce a tampon into the cavity of the womb.

## ORIGINAL COMMUNICATIONS.

### NOTES OF CASES OF RAYNAUD'S DISEASE, AND OF GANGRENE COMPLICATING DIABETES MELITUS.

*Read before the College of Physicians of Philadelphia, March 3, 1886.*

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#### I.—RAYNAUD'S DISEASE.

SEVERAL names have been proposed or terms applied to indicate the pathological and clinical phenomena which are so graphically portrayed in the following case. It belongs to that interesting group of diseases of the nervous system in which vaso-motor and trophic disturbances are paramount. As will be seen, in all probability the nutritive changes resulting in gangrene were probably due to causes extraneous to the nervous system. There were present in addition, however, marked vaso-motor phenomena; and if, with Dr. Barlow, of London, we consider that the paroxysmal character of the circulatory disturbances is the essential clinical manifestation of Raynaud's disease, then the term is a fitting one to apply to this case. As may be inferred from the above, and as the history will show, the clinical appearances and pathological changes were complex. What immediately concerns us, however, was the presence in a high degree of the vaso-motor disturbances known as local syncope and local asphyxia.

At the time this case was under observation, and when we were deeply involved in a study of the known facts of this singular disease, Dr. C. L. Dana\* treated of it in a very able and exhaustive article, entitled "The Acro-Neuroses." This term he used to include all the functional affections of the extremities, and under the sub-heading of "Vaso-Motor and Trophic Disturbances" he included the group of cases of which this is an example. It would be supererogatory, therefore, to traverse the same ground, and we will,—at the risk of some repetition, however,—after presenting some few facts, be content with a report (we fear too wearisome) of our case, with such remarks as its special features may suggest.

\* New York Medical Record, July 18 and 25, 1885.

Much difficulty has attended the selection of a name to characterize the *ensemble* of symptoms which is presented in these cases. Names, it is true, are applied which vividly signify particular stages. What more striking than "dead fingers," *digiti mortui*, or "local syncope"? The same may be said of "local asphyxia," descriptive of the cyanosis; though possibly from it an improper conception of the pathology of the disease may be formed. "Symmetrical gangrene" tersely describes the terminal anatomical changes, but it is not, as Southey suggests, a strictly correct term, for often gangrene is absent, and quite often it is unilateral only. "Erythromelalgia" has been suggested, and Dr. Dana thinks Mitchell and Raynaud independently described the same affection; but it appears—and if the statement is not correct we hope to be corrected—that Dr. Mitchell, who was familiar with Raynaud's work, describes states in which the blood-vessels were generally dilated, and pain was a most marked antecedent and also a concomitant feature.

Raynaud's disease should be defined as that vaso-motor affection which is characterized by tonic spasm of the blood-vessels, causing local syncope, local asphyxia, and gangrene. In local syncope the parts affected are "dead," numb, cold, or pallid. In local asphyxia the parts are blue or mottled, lower in temperature than normal, and the seat of intense, burning pain. Both of these circulatory disturbances may be attended by diminished tactile sense and local sensibility, and they occur in paroxysms, which may terminate either in the restoration of the parts to their normal condition, or the one (local asphyxia) may end in scleroderma (Grasset, Hallopeau).<sup>\*</sup> These phenomena occur not only in paroxysms, often in quick succession, but also are marked by distinct intermittency, and the entire disease is frequently characterized by pronounced remissions. Gangrene occurs only as a sequence of the conditions just described, and may be described as dry gangrene or mummification, as the form resembling frost-bite, and in dry, hard plates or parchment-metamorphosis of the dead tissue. It is generally attended with much pain, but is not the

cause of septic complications or of death (Southey).

Local syncope, be it remembered, frequently occurs independently of sequential changes. Many cases have lately been recorded; among the most interesting ones those of Richardson,<sup>†</sup> of London, may be mentioned. It may be due to peripheral impressions, as seen in the action of cold, or to central functional excitation, as in a case of general hysterical paralysis related by Mitchell,<sup>‡</sup> in which there was spasm of the vessels of the left leg, so that it became white and cold. Another interesting case is recorded by the same observer, in which, after injury to the nerve of one leg, the unaffected member became "dead."<sup>§</sup>

Local asphyxia likewise is observed alone in all grades, from the mottling that is seen in delicate children exposed to cold and the mottling which Cavafy|| described as pathological, to the cyanosis that attends heart-disease or goes with scleroderma.

The grouping together of these vaso-motor phenomena, their occurrence in symmetrical parts of the body, and in the sequence stated above, are, however, the essential features of Raynaud's disease. In addition to other features of this curious disease, it may be stated that it occurs frequently in females at an early age and after a previous debilitating disease or in the course of some diathetic ailment. The origin of many cases has been attributed to malaria, while three cases are recorded as occurring in the course of diabetes.<sup>¶</sup> The duration of the disease varies from a few weeks to years.

One of the most striking characteristics is the intimate relation of these vascular and trophic changes in the extremities to other affections of the sympathetic nervous system. These allied affections have been remarked by Barlow,<sup>\*\*</sup> and he calls attention especially to paroxysmal hæmatinuria. Paroxysms of this latter disease alternated with the limb-disorder in one of his cases, and they were fundamentally similar in that both occurred intermittently, were worse in warm weather, rarely if ever

<sup>\*</sup> See also Finlayson "On the Occurrence of Symmetrical Gangrene of the Extremities in a Case of Scleroderma Adultorum," *The Medical Gazette*, 1884-85, i. 315. Local syncope antedated and accompanied the scleroderma; the gangrene complicated it, causing death.

<sup>†</sup> Richardson, *Asclepiad*, January, 1885.

<sup>‡</sup> Mitchell, *Diseases of the Nervous System*, Philadelphia, 1885, p. 32.

<sup>§</sup> Mitchell, *Diseases and Injuries of the Nerves*.

<sup>||</sup> Cavafy, *Trans. Clin. Soc. Lond.*

<sup>¶</sup> Barlow, Raynaud, *Fox*.

<sup>\*\*</sup> *Trans. Clin. Soc. Lond.*, xv. p. 167, 1879.



occurred at night, and were ushered in by yawning and vomiting.

Hutchinson\* recorded a case in which iridoplegia was associated with local syncope, asphyxia, and gangrene of the ears. The patient was a female, aged 30, who could not resist cold. The pupils were partially dilated and absolutely fixed. Recovery followed. More curious still is the case of Weiss.† The disease was seated in the extremities, and was of many months' duration. During its course temporary aphasia occurred twice, which he believed to be due to an ischæmia of the speech-centres. There was no vascular or organic nerve-disease. You will recall that Raynaud observed contraction of the central artery of the retina in one of his cases, and attributed it to vaso-motor influences. Klein and Scetlin prove, however, to the satisfaction of Landois, that this artery is not influenced by section or stimulation of the sympathetic.

In one of Southey's‡ cases there was joint-involvement to a high degree, and the case looked not unlike a rheumatic purpura. He attributed the joint-changes to nerve-influences, however; and cases are recorded of swellings, induration, and contractions of the joints. Hutchinson sees in these cases a possible explanation of the pathology of "end-joint" arthritis.

Vascular and trophic skin-changes also alternated with or accompanied the disease in the extremities. Among others may be mentioned urticaria, erythema nodosum, and eczema.

A word as to the pathology. There is no doubt that the phenomena are due to a spasm of the blood-vessels. This spasm has been attributed to central organic diseases or functional excitation, to excitability of the sympathetic ganglia along the vertebra or to those on the blood-vessels, and, finally, to degeneration of the peripheral nerves.

The latter possibility finds an advocate in Pitres,§ who found in cases of symmetrical gangrene extensive peripheral neuritis with degeneration of the nerve-fibres. On the other hand, Semmola found degeneration of the central vaso-motor nuclei, as well as the vagus, in a case of functional

heart-disease and asphyxia of the extremities. No other evidence has been furnished either of peripheral or central degeneration, and the theory of reflex spasm receives the most support. Raynaud believes there is great exaggeration of the irritability of that part of the central gray matter which presides over vaso-motor innervation, and hence any slight peripheral stimulation reflexly causes spasm.

Webber would have us believe that the reflex arc is completed on the vessels themselves, and many others teach that spasm occurs from the local irritation of sympathetic ganglia or filaments connected with the vessels by a poisoned blood. Especially, they say, these phenomena are presented if the heart is too weak to overcome the peripheral spasm. This theory is similar to the one which explains the vascular phenomena of Bright's disease. The localization to the extremities of the vascular phenomena in Raynaud's disease is due to the exaggerated local excitability of the sympathetic ganglia.

Some speculations have been advanced to explain the phenomena of syncope and asphyxia. Local syncope has been attributed to slight reflex spasm of the vessels, local asphyxia to a profound arrest of the circulation. The former is due, some hold, to arterial and venous spasm, the latter to arterial spasm alone. Again, Nedopil believes that local asphyxia is due not only to an arrest in the supply of arterial blood, as in syncope, but also to capillary stasis of the venous blood. With these preliminary remarks, we prefer to present the history of a case which exemplifies some of the interesting features just detailed.

*Case.*—One of the peculiar features of the patient whose history I am about to detail was a great tendency to blushing. From early childhood he was known to be shy, and this mobility of the vaso-motors was excited on the slightest provocation. Another was his susceptibility to cold,—so marked that he would not indulge in the usual winter sports of his boyhood days. On account of this sensitiveness, rather than from excessive exposure, he had an attack of chilblains five years previously. Then, again, he was easily affected by tobacco, for, although he had tried faithfully, yet he could not "harden" himself sufficiently to prevent his becoming pallid on occasions, and having repeated attacks of pallor noticeable to his companions when smoking had been excessive. Finally, this susceptibility of his sympathetic system to impressions may be illustrated by the frequent

\* Hutchinson, *Med. Times and Gazette*, 1871, vol. ii. p. 678.

† Weiss, *Zeitsch. f. Heilk.*, 1862, vol. iii. p. 233.

‡ Southey, *Trans. Clin. Soc. Lond.*, vol. xvi. St. Barth. Hosp. Rep., vol. xvi.

§ Pitres and Vaillard, *Archives de Physiol. norm. et path.*, 1885, No. 1, pp. 106-127.

occurrence, without discoverable cause, of vertigo. About five years ago, J. H. had an attack of intermitting fever. This was succeeded by spells of vertigo, which developed at any time, without cause, and were accompanied by blindness. The attacks lasted but a few moments, and were relieved by sitting down. The vertigo was subjective, and had not been preceded nor accompanied by aural or gastric phenomena. After the lapse of a year, the attacks, which were of daily occurrence, gradually but completely disappeared.

Aside from these circumstances, the medical history of the young man was uneventful up to the time of the present attack. He had never had any other illness; never migraine; never syphilis nor gonorrhœa. His habits had been good; he had never indulged in excessive venery. The mother of J. had been insane for five years; caused by prolonged mental strain. A sister had been very hysterical; but otherwise she and two other sisters had always been well. The same may be said of one brother; of the other, that he is subject to rheumatism. The father was healthy, complaining only lately of cardiac pain and dyspnoea. His maternal grandparents were very well; his paternal grandfather and two uncles died with heart-disease.

J. H. came to me on the 12th of July, 1885, with the following immediate history of his complaint. On the 17th of May preceding he went out as milk-server, having previously been a paper-hanger. In addition to the serving of the milk, he had to "ice up" a great deal, and also attend to a horse. The handling of the ice was trying to his hands, but did not prevent him from working. On the fourth day of his new work a large lump of ice fell on the palm of his left hand, bruising it severely. Five days after this his hand turned suddenly white, and became very cold, numb, and the seat of pain. At the same time he experienced slight tingling and numbness in the right hand. The paræsthesia of this member disappeared in about a week. The pain in the left hand was lancinating and prevented sleep. He continued at work, however, but it was interfered with by the pain, numbness, and stiffness.

Nearly five weeks after the receipt of the injury (July 1), he was awakened by a severe pain in the hand, and on inspection found its color had changed to a dusky red. The pain continued not only in the hand, but was also felt along the brachial artery. A short time before this change he noticed slight blueness of the finger-tips.

On the occasion of his first visit the following appearances were observed. The hand is very cold, and the coldness extends up the arm to the elbow. The surface-temperature is lower than my thermometer will register. On the dorsal surface of the hand there is a general venous or dusky redness, extending

one inch above the wrist-joint. The blueness is deeper towards the tip of the finger. The index-finger is markedly cyanosed. All the nails are blue. The little finger is also quite blue, the middle finger less than the other two. The last phalanx of the index-finger is blue-black, increasing in depth of hue from the median line to the sides as the palmar surface is approached. The thumb is similarly discolored. Pressure on the skin causes pallor, which instantly on removal of the pressure changes to red, the wave of color beginning in the periphery. On pressing the fingers, instead of pallor, a bluish tint of the anæmic skin is observed. Here the color-changes are more rapid. The skin of the fingers about the joints is wrinkled. The cyanosis is deeper on the finger-tips. The hue is of equal intensity on the little and index fingers, the thumb is the next deepest, the middle the next, and the ring-finger the least discolored. The more marked hue of the first two fingers indicated does not give change to pallor on pressure, and that of the thumb and middle finger but slightly. On the index-finger, over the terminal phalanx, one-quarter of an inch from the extreme end is a small sphacelus the size of a bean; its boundary is irregular, and it is surrounded by an area of redness. A deeper-colored spot is seen nearer the joint of the same surface. Outside of the area of congestion an anæmic line two lines wide is observable. The darker slough is said to be three weeks old. A smaller sphacelus is seen on the little finger. From the wrist almost to the elbow the arm is quite red. Pain is experienced in the finger-tips, and is excruciating at nights. The ends of the fingers are very painful on pressure. While taking the above notes, the entire hand to the wrist, in repeatedly succeeding waves, changed from the cyanotic hue to a deep pallor; the finger-tips alone remained blue. This pallor lasted five minutes, and then changed again to the original color. These changes take place four or five times a day, and the pallor continues from five to fifteen minutes. Accompanying them there is extreme pain in the tips of the fingers, but no throbbing. Sensation is not lost in any part of the hand except on the sloughs; impairment of the tactile sensibility is marked. There is no loss of power, and no change in the electrical reactions. The hand is extremely sensitive to the heat of the atmosphere, extreme pain being experienced in the middle of the day if exposed to the sun. When cyanotic, the sensation to the hand placed in cold water is of heat; in hot water the same sensation is felt; cold applications increase the pain. As previously noted, the pain is worse at night, keeping him from sleep, and is especially severe in the recumbent posture. There is no atrophy of the arm or hand, no œdema. The pulse in the radial is absent, and pulsation can scarcely be felt in the brachial and axil-

lary arteries. The nails grow, but the patient is unable to cut them, on account of pain.

His general health is good. He sleeps poorly, on account of the pain, but there are no cerebral symptoms. Vision normal, eye-ground healthy, pupils dilated but movable. His appetite has been poor for the past seven weeks, digestion good, and bowels regular. The heart is normal and free from palpitation. The urine is light in color, normal in quantity, acid in reaction, and free from albumen and sugar, but contains some urates.

July 16. Daily applications of the faradic current have been used, morphia taken at night, and  $\frac{1}{100}$  of a grain of nitro-glycerin three times daily. The electricity relieves the pain, and the cyanosis is not so great, save in the index-finger, which is more blue. No increase in size of sloughs; fingers are shrunk so that the skin can be pinched in folds from the tip to the first joint. Local syncope occurs much more frequently and continues much longer; instead of five times, it takes place twenty-five times in the twenty-four hours. After pressure the capillaries do not fill so quickly as before. The pallor is of a different shade; instead of dead white, it is now yellowish-green, not unlike the yellow tinge after a bruise. Pain is complained of, especially on the radial side of the middle finger and on the opposite side of the index-finger. The middle phalangeal joint of the index-finger is more painful than formerly. The hand is stiff; the grip is not so strong as it was.

July 21. Shrivelling of the extremities of the index- and ring-fingers is noticed, and hence the epidermis is loose. The ring-finger is free from asphyxia; the middle finger is improved; the index-finger is blue-black, the color not changed by pressure. Pain and tenderness of the second phalangeal joint of that finger continue. On the radial side of the second joint of the middle finger a slough is forming. Index-finger still quite stiff; thumb asphyxiated, but not shrivelled. Pain continues; heat of sun increases its intensity, and hence he remains in the house during the day. The solar heat turns the hand purple, he says. The loose epidermis is insensible, but firm pressure causes pain in the finger-tips.

July 24. Since the last note an improved and marked change has taken place. The hand does not turn pale as often as it did, and its general warmth is increased, but the redness continues. The second joint of the index-finger remains swollen and tender, and the ecchymosis on its surface remains. On the finger-tips the most marked change is seen. The palmar surface of the last phalanx of the index-finger is pale and hard as if dead, and on its centre the brown ecchymosis is seen. The asphyxia has deepened very much on all the fingers, and the pain and tenderness are increased. About over the first joint

of the index-finger a line of demarcation is beginning to form.

July 26. A thin, brown fluid has been oozing through small orifices in the raised and redundant skin of the index-finger. This epidermis has become brown. Lymphangitis to the elbow from the index-finger is observed.

July 29. Lymphangitis has subsided, the discharge of ichor ceased, and the formerly loose epiderm has become intimately adherent to the finger, which is dry, hard, and insensible from the tip to three lines from the first joint anteriorly, and at the sides to the root of the nail. The gangrene extends under the nail; the nail is black, and from the root of it to the palm the skin is asphyxiated. The fingers remain stiff, the skin of the thumb is hard, and a little purpuric spot is seen on the tip. Similar spots are seen on the dorsal surface of the middle finger, as previously described. The asphyxia of the middle finger is less, but the second joint is painful, and purplish on its surface. At the root of the nail a small slough is forming. On the palmar surface of the first phalanx of the little finger a dark-brown and loosened cuticle is seen; it is a little tender. Pallor has not been observed for two days; hand not as cold as formerly.

August 1. The gangrene has extended a little below the first articulation on the palmar surface of the index-finger, and around the finger to one-eighth of an inch below the root of the nail; the nail is very black; a line is forming, and the finger is offensive. The fingers pain if the hand is held up.

August 12. The dry gangrene has continued to extend on both surfaces of the finger to the first phalanx; the remainder of the finger is much swollen and indurated; sloughs on the palmar tip of middle and ring fingers continue, and the ecchymosis continues around the nail on the palmar surface. The subcuticular parts have atrophied so that the cuticle covers it like a shell; same condition, though not so marked, on the thumb and little finger. The nails have grown, but as yet he has been unable to cut them, on account of the severe pain.

August 16. Line of demarcation forming; the finger still blackened.

August 21. Index-finger thickened and swollen; gangrene now extends to the bone. Epidermis is still raised over the tip of the middle finger, which is hard and painless, and probably underneath new skin has formed. Thumb side of index-finger is very black along the nail; tip of little finger still red; the general cyanotic hue of the remainder of the hand has almost entirely disappeared; instead thereof there is an irregular mottling. The temperature of the hand is below normal, but not as cold as formerly.

August 24. After a complete line of demarcation had formed, Dr. Dulles removed the affected tip. The removal of the gangrenous



The figure shows the extent of the gangrene of the forefinger. The outer dark spots represent the various small sphaceli; July 29.

portion served to free the patient from pain, on account of which he was enabled to sleep at night in the recumbent posture. Succeeding the operation the cyanosis of the entire hand disappeared entirely.

September 15. Dr. Dulles had found it necessary to remove not only the dead portion, but also a small portion of the living tissue. The stump healed kindly, and the patient has just returned to his work.

January 11, 1886. It was noted that the nails grew but slightly while the patient was under observation. It is now seen that their nutrition had been seriously interfered with, the structure that grew then being different from the portion towards the end or the new healthy portion at the matrix. The diseased portion, seen on all fingers except the ring-, is from one-eighth to one-fourth of an inch long, slightly discolored, friable, and rough, and on a lower plane than the older and newer portion, due probably to the antecedent shrinking of the finger-ends. The hand to the wrist is very red, and the vessels are emptied readily by pressure. The right hand is also quite red, but not so markedly as the left. The pulse has returned, but feebly, in the radial and brachial. He suffers some pain along the vessel. The hand in a warm room is of the same temperature as the right, but on exposure it becomes cold more quickly, and with more suffering.

*Remarks.*—The suddenness of the onset of the symptoms in this case, with the ab-

sence of pulse in the radial, brachial, or subclavian artery, appears to show that primarily, at least, there was an arterial thrombosis. The origin of it is obscure. It is possible that an arteritis had been set up by the blow in the hand, or even by cold (ice), and the thrombus developed secondarily. Dr. Piersol very kindly examined a portion of the healthy tissue that had been removed, and reports that he could find only small vessels filled with clotted blood, but without inflamed walls. Recently J. H. has reported, complaining of pain behind the clavicle. There is no disease in the axilla, and nothing to account for a thrombus. It is, therefore, impossible to find the cause of the vessel-obliteration. There is one case alone, of many cases of symmetrical gangrene reported, in which a large vessel did not pulsate. I hesitated, therefore, to account for the absence of pulsation by arterial spasm alone, and yet it would not be unreasonable, for, as we can have abnormal pulsation of a vascular trunk, so can we have abnormal spasm.

As hinted in the beginning, in all probability the gangrene was due to the vessel-obliteration, intensified, however, by the occurrence of local asphyxia. If the obliteration of the vessel be due to causes



other than spasm, the phenomena of syncope and asphyxia from capillary spasm can be explained by invoking reflex action; that is, the clot in the vessel or the source of the clot in the thorax acts as an irritant to peripheral vaso-motor nerves through the "pressor" fibres, causing reflex capillary spasm.

A neuritis, on the other hand, may be conceived as the cause of the vascular and nutritive changes. Yet the absence of paralyses and atrophies, and the electrical reactions, together with the result of the case, would point to functional rather than organic nerve-lesion.

**NOTE.—History.** In addition to the complete bibliography of Dana and the references in the text, the following are worthy of study. E. L. Fox, on The Sympathetic Nerve, etc., has a most admirable and exhaustive account of this affection, and quotes some interesting observations of McIntyre and others. A list of authors and reported cases are given. They will be excluded from this list. Ross, Wilkes, and other works on the nervous system may be consulted. One of the earliest and best cases recorded is by A. S. Myrtle, M.D., in the *Lancet*, 1863, i. p. 602, entitled a case of "Anæmic Sphacelus." The books of Woakes on Deafness, Giddiness, etc., and on Post-nasal Catarrh, can be read in this connection with interest.

BERNSTEIN. London Medical Record, 1855, ii. p. 337, from Proceedings of Odessa Medical Society, No. xii. p. 175, 1884.

BREHIER. Quelques considérations sur l'asphyxie locale. Paris, 1884.

FOULQUIER. Considérations sur l'asphyxie locale. Paris, 1874.

THEZE. Quelques considérations sur un cas d'asphyxie locale des extrémités. Paris, 1872.

MARRION. Gazette médicale d'Orient. Constantinople, 1869.

SALVIR and MUCKLEN. Annales de dermat. et syph. Paris, 1862, 2 s., iii. 357. Eczema with local syncope.

ENGLISCH. Wien. Med. Presse, xix. 35-41.

LANDRY. Mémoire de l'Académie de Médecine. Paris, 1855.

In addition to the contributions of Mitchell, Mills, McBride, Hamilton, Warren, and others, the following are of interest:

GRAYBILL. Case of symmetrical spontaneous gangrene. Virginia Medical Monthly, 1881, 2, viii. 355.

STEWART and HOLDEN. Chicago Medical Journal and Examiner, 1878, xxxviii. 587.

ANCRUM, J. L. Case of symmetrical gangrene, etc. Charlestown Medical Journal and Review, 1876, iii. 275-281.

FRY, F. R. Raynaud's disease. The Journal of Nervous and Mental Diseases, January, 1886.

DANIEL, W. E. Spontaneous gangrene of both feet. *Lancet*, 1857, i. 425.

CRISP. British Medical Journal, 1883, i. 572. Spontaneous gangrene, no pulsation in tibial.

Gazette médicale d'Orient. Constantinople, 1880-81, xxxiii. 36.

LANCEREAUX, E. "Des troubles vaso-moteurs et trophiques liés à l'alcoôliques et à quelques autres intoxications chroniques, etc." This author observed, among other vaso-motor disorders in alcoholic paralysis, local asphyxia and gangrene of the extremities. In his dissections he found the spinal cord healthy, but decided evidences of a peripheral neuritis.

## II.—GANGRENE COMPLICATING DIABETES.

In a few words, if only from association with the preceding, this case merits slight attention. Cases of Raynaud's disease have occurred in the course of diabetes. This is a case of simple dry gangrene, without vascular phenomena, however, and indicates how a slight injury may be productive of serious results in a diabetic.

The portions before you are the last two phalanges of the little finger. The patient, a female, aged 35, has been under observation five years. Six weeks ago she received a slight cut at the second joint of the finger. It bled a little, was painless, and soon forgotten. A duskiness was observed around it a few days after, and extended to the tip. At the same time the phenomena of dry gangrene presented themselves, and after a long time the line of demarcation had so completely formed as to permit the snipping of the ligaments about the joint to remove the mass. A slight lymphangitis had developed, and now the stump and adjacent structures of the hands are infiltrated.

## REPORT ON THE PROGRESS OF PATHOLOGY.

BY J. H. MUSSER, M.D.

### FURTHER RESEARCHES ON CHOLERA.

KOCH (*British Medical Journal*, January 2 and 9), in a speech at the second conference on cholera, reviews the bacteria question, and presents some new facts relating to cholera-bacteria and its pathogenic properties.

After calling attention to his discovery of the comma-bacillus and his conclusions as to its etiological relation to cholera, he first attempts to answer the mycologists who have objected to his convictions.

First among them were Finkler and Prior, who claimed that a micro-organism could be found in cholera nostras which could not be distinguished from the cholera-bacteria of the speaker. Koch proceeds to demonstrate that a radical difference exists not only in their mode of growth, but in their properties. As the cholera-bacillus develops, an air-bubble appearance is seen at the oldest end of the thread, when cultivated on gelatin, which is not seen when the so-called bacillus of cholera nostras is cultivated under exactly similar conditions,—on gelatin of the same concentration and at the same temperature. When grown on boiled potatoes they behave differently; the cholera-bacteria do not develop at all on potatoes at the ordinary temperature, while Finkler's bacteria grow luxuriantly. Further, the products of the decomposition of the two are also different: Finkler's bacteria have a "stinking smell," the cholera-bacilli have a peculiar aromatic odor.

Moreover, Koch, in common with Van Ermengen, Watson Cheyne, Biedort, and others, was unable to find in cholera nostras bacteria which were the same as the cholera-bacteria or Finkler's organisms, while he states that Finkler found them only in the evacuations that had undergone putrefaction ("stood fourteen days").

Klein is another able morphologist who at one time combated Koch's views. He has since withdrawn his objections, however, but nevertheless Koch quotes them and criticises them. Klein opposed Koch because he believed the micro-organisms of glanders and the cholera-bacilli were the same: (1) because the cholera-bacilli were in reality spirilla; (2) because similar bacteria are found in the deposits on the teeth of healthy men and in the stools of patients who had diarrhoea, phthisis, or dysentery; (3) because they are found only in small numbers in persons dying of cholera; and (4) because they are killed by weak acids. Under the lash of severe and able criticism by Watson Cheyne, Klein was compelled to withdraw most of the above assertions, and to come finally to the same conclusions as Koch,—namely, that the cholera-bacteria are a specific variety and seen exclusively in cholera.

Emmerich, also, had attained results in Naples that differed from Koch's. He found a peculiar form of bacteria, which

he holds is specific in the blood and internal organs of cholera patients. The true cholera-bacillus he did not find in all cases, however, and hence did not regard it as specific. Koch points out that Emmerich's investigations were conducted with old blood and stale organs. Ceci, in Genoa, however, went over the same ground, with proper precautions, without securing similar results. To the statement of Emmerich that he was able to produce effects on animals corresponding to Asiatic cholera with his bacteria, Koch answers that with various bacteria choleraic symptoms can be produced in animals, and that the bacteria isolated by Brieger from human fæces produce symptoms similar to those described by Emmerich.

After meeting his critics in a scientific spirit, Koch insists upon the truth of his original propositions because of the large array of scientists who have confirmed his work, and points especially to the investigations of Nicati and Rietsch and Van Ermengen in Marseilles, Buber, Cheyne, and Pfeiffer in Paris, Ceci, Escherich, Armanni, and Fede in Italy, and to Schottelius and others. This latter worker demonstrated that the statements of Klebs—that the comma-bacillus could be found in pneumonia—were wrong.

Further, to show that the cholera-bacteria occurs only in cholera, he exhibited cultivations from different sources,—Marseilles, Paris, and Italy. There was no difference in the appearances or properties of the various cultures.

In the second part of his speech Koch relates the new researches in cholera carried on by himself in conjunction with Drs. Weisser and Trank. The advance in our knowledge of cholera during the past year has been along the line of animal investigation. The great objection to the "specific" theory of Koch has been that cholera could not be produced by the inoculation of animals with the bacteria. By close scientific reasoning and most accurate investigation, he has found the reason for this lapse in the bacillary theory. The experiments were on guinea-pigs. It was thought that infection of animals could occur only if bile were prevented from flowing. After ligaturing the ducts, however, the injection of noxious material produced the same results as when injected without ligation: in neither instance were the inoculations successful. It had

been well known that the ingestion of the material in the stomach did not produce any choleraic symptoms because the gastric acid killed the bacilli. The injection of comma-bacilli into the duodenum of animals produced results analogous, but corresponding only very slightly, to the natural process of infection. By an extended series of experiments to find out the natural process of digestion and the time occupied in the passage of food from the stomach to the cæcum, Koch found it passed the stomach and small intestine surprisingly quickly. When the pathogenic bacteria were introduced as food, therefore, they were either killed in the stomach or hurried along through it and the small intestine too rapidly to admit of absorption, to arrive in the cæcum only to be killed there by its acid contents. The acidity of the stomach and the peristaltic action of the small intestine had to be overcome to insure success. And this was done, after much experiment, by introducing a soda-solution and the cholera-cultivation simultaneously and subsequently injecting tincture of opium. Thirty-five guinea-pigs were experimented on in this way; of these, thirty died of the cholera. Alcohol, administered in place of opium, was also found to inhibit peristalsis. Attempts were made in other ways to set up in the intestine conditions suitable for the development of cholera-bacteria: as by the administration of castor oil and croton oil by the mouth to set up an intestinal catarrh, or by the injection into the peritoneal cavity of turpentine, iodine, glycerin, alcohol, etc., with successful results only in a few instances.

Now, Koch believes cholera-infection is produced in man because the conditions are like the artificial conditions in the guinea-pig. The contents of the stomach are as likely to be alkaline or neutral as acid, and the intestinal peristalsis as inactive as in the narcotized animal. A certain conception is thus obtained as to the mode of infection, and Koch believes that by further experiment much of the process that is yet dark may be cleared up and the effects of medicines on the cholera-process determined.

Regarding the theory of production of ptomaines from the cholera-bacilli, which are absorbed and act on the organism as a whole, Koch desires to investigate it fur-

ther. Many other interesting features were fully developed. Space permits us to state them only very briefly. He found that the infective material can be carried successfully from one animal to another. Elaborate experiments were made in regard to the resisting power and vitality of the cholera-bacilli. Their vitality is of short duration. Death of the cholera-bacilli in the dry state takes place with striking rapidity, while in clothing, etc., in the moist state they lived only three days. A five-per-cent. solution of carbolic acid killed them in a few minutes, and he pronounces it the best disinfectant.

Bochefontaine and others swallowed cholera dejecta in the form of pills without infection. Koch believes this negative result was due to the acid in the stomach at the time of digestion.

The resting-stage of the cholera-bacteria is next discussed. Koch does not believe it has been found, nor that it exists, notwithstanding the experiments of Ceci; yet he states that one can conceive that in the superficial layers of the ground, in swamps, etc., conditions may exist in which the cholera-bacilli may be preserved for five months or even longer.

Finally, Koch relates a case of cholera which developed in his own laboratory from contact of the person infected, with his cultivations.

(To be continued.)

#### NOTE ON THE TREATMENT OF KELOID AND HYPERTROPHIED SCARS BY ELECTROLYSIS.

BY W. A. HARDAWAY, A.M., M.D.,  
Professor of Diseases of the Skin in the St. Louis Post-Graduate School of Medicine.

**I**N a paper read before the Missouri State Medical Society in May, 1883,\* on the general subject of electricity in dermatology, I mentioned the fact that I had employed electrolysis in the treatment of hypertrophied scars, and further suggested its use for true keloid.

My first experience was gained in the following manner. A lady who consulted me about the removal of superfluous hairs exhibited a large number of irregular hypertrophied scars on the skin, which she said had been produced by caustic injections in or near the hair-follicle in a

\* Published in the St. Louis Courier of Medicine, June, 1883.

futile endeavor to remove the hirsute growths. As may be imagined, the hairs were twisted and tortuous, and in attempting their removal the electrolytic needle was plunged in and about the distorted follicles, thus acting very freely upon the scar-tissue. Of course I was merely endeavoring to destroy the hair-papillæ, and had no idea of effecting anything further. Therefore great was my astonishment, as the treatment progressed, to discover that the hypertrophied scars were being smoothed out,—in fact, they finally became flat.

The next case was that of a young lady who had an elevated radiating scar upon her forehead, the result of an electro-cauterization for the removal of a port-wine mark. In this instance I attacked the cicatrix intentionally with the hope of reducing it.

In a paper read before the American Dermatological Association August 27, 1885,\* on the "Treatment of Port-Wine Mark by Electrolysis," I have recorded this particular case, and there state that "I attacked the elevated cicatrix produced by the galvano-cautery, and, as I had observed before in other hypertrophied scars, the effect has been striking as regards smoothing down the scar."

Several times in the past six or seven years I have begun electrolytic operations on true keloids; but, as the cases have always been in the persons of dispensary patients, no one of them has remained long enough under observation to enable me to form any opinion of the results.

Two years ago a physician of this city sent his daughter, a lady of 30, to me for treatment of a keloid. The growth was situated on the chest, on the right side, and about two inches below the clavicle. It had followed upon the extirpation of a bean-sized mole, and, although at first quite small, had grown to the circumference of a silver half-dollar and was a quarter of an inch in height. The subjective symptoms were very annoying, the growth being the seat of constant sensations of pain and burning.

I operated on the growth a number of times by multiple punctures with the electrolytic needle, sometimes tattooing, as it were, the surface, and at other times running the needle in various directions through the base.

After a number of visits, this patient

also disappeared, but within the past week she called on me again to show the result. She stated that after discontinuing her visits, which she did because the operations were quite painful, she noticed that the keloidal tumor began to shrink, and that at the same time the various annoying symptoms appreciably lessened and finally subsided altogether. She soon ceased paying any attention to the growth, and of its further progress up to the time of exhibiting it to me she had made no notes.

When I inspected the tumor I was delighted to find that in the place of an elevated keloid there was left only a smooth, white scar, very slightly raised above the level of the skin.†

It is just possible that this keloid and the hypertrophied scars may have spontaneously disappeared; but I am so strongly inclined to the belief that the results obtained were the result of the treatment employed that I have been encouraged to place these notes before the profession.

## TRANSLATIONS.

ON RADIAL PARALYSIS FROM COMPRESSION.—MM. Déjerine and Vulpian have studied radial paralysis from compression. This form of paralysis generally lasts five or six minutes. The susceptibility of the nerve to stimulation varies in different parts. Below the part compressed its excitability is not lessened, but rather slightly exaggerated, by an electric current. Above the part compressed the current does not increase its excitability. Muscular nutrition is not affected, except that the long supinator muscle becomes atrophied, and this muscle does not contract under the influence of a galvanic or faradic current. There is also an evident tendency to nerve-degeneration, probably due to the superficial portion of the radial branch innervating the muscle, which is thus more susceptible to compression. Patients suffering from paralysis from compression exhibit disturbed subjective sensibility. If the radial nerve is stimulated above the part compressed, the patient does not, as is usual, indicate painful sensations at the periphery. These notes were taken from

† According to the accepted classification, this growth must be regarded as a so-called false, or cicatricial, keloid; but, admitting the propriety of the distinction between this and the spontaneous variety, it is quite likely that the treatment employed for one would be equally applicable to the other.

\* St. Louis Courier of Medicine, March, 1886.



five cases of radial paralysis from compression, one occurring during an attack of epilepsy, three from compression during sleep, and one from an injury to the arm. M. Déjerine believed that the lesions of radial paralysis are not so limited as is supposed, and tried to produce the same condition in animals. He isolated the sciatic nerve and compressed it with pincers, but the results were unsatisfactory. The compression was either too intense or not sufficiently so: therefore the symptoms were either those of peripheral paralysis, atrophy, degeneration, or absence of results.

M. Brown-Séquard was present at the meeting of the Biological Society when this paper was read, and he said that he did not believe that radial paralysis presents any lesions, but is due to peripheral stimulation, which has an inhibitory influence on the cord. Probably, necropsies would not give any clue: it is a question of purely dynamic phenomena. Nevertheless, after a certain time inhibition produces alteration. M. Déjerine would have done better, M. Brown-Séquard believed, to have produced radial paralysis with the nerve kept in its normal surroundings, and not exposed.

ON THERMIC STIMULATION OF THE BRAIN.—Dr. Eugène Dupuy, at a recent meeting of the Biological Society, stated that, ten years ago, M. Brown-Séquard showed to the Paris Biological Society a dog in which he had burned the frontal and parietal convolutions with red-hot irons. This animal exhibited, besides interesting vaso-motor symptoms, very pronounced paraplegia, suggesting meningeal myelitis rather than a central lesion, which actually existed. Dr. Ferrier some years ago showed at a London medical society a monkey with those convolutions destroyed which he believed contained the psycho-motor centres of one side of the body. This monkey had the right fore-limb of the opposite side contracted. At the necropsy some months later on, it was observed that there was degeneration of the pyramidal fibres on the side corresponding to the cortical lesion. This degeneration began at the decussation of the pyramids, and invaded the two lateral columns of the spinal cord; but on the left side, the one corresponding to the cortical lesion, the lesion did not extend lower than the cervical region.

M. Babinsky has recently published notes of a case observed at the Salpêtrière in which degeneration resulting from an area of softened brain-tissue in the antrum ovale sinuses invaded the right and left sides of the cord. There was muscular atrophy, but no lesion of the medullary cells nor of the roots. M. Dupuy states that three dogs in which he had destroyed with red-hot irons the cortical substance reputed to contain the psycho-motor and psycho-sensory centres died between three and five days after exhibiting symptoms which he had never observed to follow any other means of destroying convulsions. These animals were thrown into a prostrate condition from the onset of the operation. They rejected the smallest quantity of milk. At the necropsy the cerebral substance in the two hemispheres comprised between the seat of the lesions and the decussations of the pyramids appeared normal to the naked eye, but the cord below the pyramids was completely disorganized, just as though there had been extensive capillary hemorrhage which had reduced the cord to pulp.

A MICROCOCCUS IN CORNEAL GRANULATIONS.—At a recent meeting of the Paris Surgical Society, M. Poncet stated that the microbes of the corneal granulations were studied in 1881 by Sattler. M. Poncet detected in an eye enucleated by M. Dehenne the presence of a micrococcus in the interior and exterior of the granular cells. This investigator also found it in the membrane of Descemet, and also in the iris. M. Poncet considers it possible that the microbes had penetrated into the anterior chamber in consequence of an incision, since iridectomy had evidently been performed. Indications of it were also evident in sections of the eye. M. Poncet showed drawings to the Society representing the position of the microbe in the granulations. Sattler's statement that the micrococcus is analogous to that of gonorrhoea M. Poncet considers erroneous, and asserts that it is much larger.

CALOMEL AS A DIURETIC IN OEDEMA.—In a case of extreme dropsy, Jendrassik, of Buda-Pesth, found that calomel in small doses (Gr. 0.2), repeated from three to five times a day, produced profuse diuresis, commencing on the second day.—*Deutsche Med. Zeitung*, No. 37, 1886.

PHILADELPHIA  
MEDICAL TIMES.

PHILADELPHIA, MAY 29, 1886.

EDITORIAL.

THE COUNTY MEDICAL SOCIETY  
DELEGATES.

A SPECIAL meeting of the Philadelphia County Medical Society was held on the 18th instant, in order to receive the reports of the delegates of the Society to the recent meeting of the American Medical Association. A report signed by a majority of the delegates from the Society in attendance upon the meeting at St. Louis was read, adopted, and ordered to be printed and distributed to the members of the State Medical Society and the American Medical Association. Resolutions reaffirming the legality of the election, and declaring that the Judicial Council in excluding the Society's delegates acted in violation of the common rules of evidence and justice, were offered and adopted at the same meeting.

A statement signed by two other members of the delegation was also submitted; but the Society refused to accept it or acknowledge it as a minority report. This report has been put in our hands; but, inasmuch as the same question as that which caused contention at St. Louis will be likely to come up before the Judicial Council of the State Medical Society for serious consideration next week, we prefer not to publish it, and forbear comment upon it at present. We regret deeply that a division has been caused in the County Medical Society upon a mere question of medical politics, and hope that both parties will now forget their differences and devote themselves to the legitimate scientific work of the Society.

THE FIRST SANITARY CONFERENCE OF THE STATE BOARD OF HEALTH.

MUCH credit is due to Dr. Joseph F. Edwards, chairman of the Committee of Arrangements, and to his coadjutors, Drs. Pemberton Dudley and Benjamin Lee, for the successful management of the recent Sanitary Conference held in this city under the auspices of the State Board of Health. An invitation extended to other Health Boards to participate in the work of the session was quite generally accepted, and representative delegates were present from all parts of the country. The Maryland State Board, as a compliment, came over in a body.

An opportunity was afforded in the meetings, which extended over three days, for an expression of opinion on matters relating to the public health and the discussion of methods looking towards an advancement in the sanitary condition of the Commonwealth, the prevention of sickness and avoidable death, and the improvement of the conditions of living.

Although the actual numbers in attendance upon the meetings were small, yet, thanks to the strong support given by the daily press, abstracts of the papers and discussions were published daily, and thus reached the homes of the people. We believe that this Convention has done good; but we cheerfully acknowledge that the good that it has done has been accomplished chiefly through the publicity given to its proceedings by an intelligent and independent press. Arrangements, it is believed, will soon be made to preserve in permanent form the papers which were read at the conference.

THE NUTRITIVE VALUE OF CONCENTRATED BEEF PREPARATIONS.

IN a recent communication to the College of Physicians by Dr. Thomas J. Mays, of this city, were reported the re-

sults of an experimental research into the nutritive value of a number of specimens of beef-extracts found in the market. The experiments were made upon the isolated frog's heart, and seemed to show that, contrary to the opinion held by nearly all physiologists, these preparations contained considerable material available for purposes of nutrition; but the experiments also showed that the "force-value" of these foods was much less than that contained in milk or in a two-per-cent. solution of dried bullock's blood, which were used for comparison.

So far as these experiments prove anything, they may be accepted as showing that beef-extracts possess some nutritive properties,—which has never been denied. They fail to show, however, that these preparations are especially desirable as food; and upon this point clinical experience is on the side of the majority of physiologists.

While the results of experiments upon the lower animals are often valuable guides to the physician, it is possible to rely too much upon what has been happily termed "bull-dog and bull-frog physiology." Exact knowledge of dietetics is very desirable, but will hardly be reached through observations made under such abnormal conditions as those which furnished Dr. Mays with his deductions.

Beef-extract and beef-juice usually contain only traces of proteids, the greater portion of albuminoid substances remaining in the solid portions of the meat, which contains nearly all the nutritive materials. The extraction of the salts and extractives, by either boiling or expression, destroys in a great measure the sapidity of the meat, but does not diminish its digestibility or its usefulness as nutriment.

Förster and Rijnders, in experiments upon man, have shown that meat from which the salts and extractives had been removed was digested and absorbed as readily as roast meat.

The experiments of Dr. Mays are calculated to support the fallacy, so widely current in and out of the profession, that beef-tea, beef-juice, or beef-extract may be safely used as a substitute for the meat in substance. The teaching of all recent physiology is exactly to the contrary.

#### BRONCHIAL ASTHMA AS A REFLEX SYMPTOM OF NASAL DISEASE.

THE recent observations of E. Cresswell Baber, M.B. (*British Medical Journal*), on the congestive theory of asthma, from prolonged study of the nasal mucous membrane during life, seem to support the view that the bronchial mucous membrane may undergo temporary swelling similar to that which occurs in morbid states of the nasal mucous membrane, though decidedly less in degree. The nasal respiratory mucous membrane consists of a large tract of spongy tissue situated chiefly on the inferior turbinated bones. This membrane contains numerous large venous vessels, by the distention of which erection or congestion of these bodies occurs. Within certain limits this is a normal process, but when excessive it is capable of exciting neurotic asthmatic attacks, accompanied by sneezing and serous secretion, quite independently of hay-fever. The symptoms above described may be accompanied by any of the reflex phenomena known to be associated with the nose,—viz., cough, asthma, redness and itching on outside of the nose, nightmare, migraine, constant headache, supra-orbital neuralgia, giddiness, and epilepsy. According to this view, hay-fever is simply a neurosis of the nasal mucous membrane, accompanied by its reflex phenomena, and produced by the pollen of plants or other irritant, in persons specially predisposed to it. The neurotic attacks are caused by some local excitant in the nasal cavities, such as polypi or inhaled foreign bodies, the constitution of the patient always being an important factor.

Further proof of the intimate relationship which exists between the bronchial and nasal mucous membranes is offered by Hack, who reports a case where asthma was produced by the galvanic cautery being applied to the nasal mucous membrane, the patient never having had asthma before. It is also a fact that bronchial asthma has been frequently relieved and sometimes cured by treatment of the nasal cavities.

#### THE NATIONAL HEALTH BOARD.

FROM the Annual Report of the National Board of Health for 1885, which has just been issued, we observe that, although crippled by want of means to prosecute its labors, the Board has not been idle. Though unable to participate actively in the work of protection against cholera and smallpox, it has fulfilled its duty and rendered real service in warning and advising, as required by its constituting act. Health-officers will find in the papers appended to the report, in a compact form, useful information with regard to the literature of cholera-prevention for the year 1885, and also valuable statistics of mortality from towns and cities representing in the aggregate a population of ten millions.

We have learned that a bill has been favorably reported by the Committee on Commerce to the national House of Representatives, which contemplates the abolition of the Board and the substitution for it of a Health Bureau in charge of a Sanitary Director. In such an important change as this the medical profession everywhere throughout the country is interested, and the prospect of an early visitation of Asiatic cholera emphasizes the propriety of obtaining a decided expression of its opinion upon this question. A deliberative body like the present Board, which in presenting the results of experience can suggest and direct the labors of the health-officers in the various States, may prove to be far more practica-

ble than a single federal officer at the head of a Bureau of Health. The latter, at all events, is an untried experiment, whereas the work and constitution of the Board of Health have been approved by such representative bodies of the profession as the American Public Health Association, the Sanitary Council of the Mississippi Valley, various State Boards of Health, and many Medical Societies, including the College of Physicians of Philadelphia and the New York Academy of Medicine. Congress should, at all events, make proper appropriations for sanitary work under existing laws, in order thoroughly and fairly to test the working of the present organization before superseding it by another which may be more expensive and less efficient.

#### AN UNFORTUNATE COMPARISON.

DR. DAVID L. YANDELL, in one of his letters to Dr. Wathen, published in the *Medical Bulletin*, April, 1886, makes the assertion that "Eastern men are less ready than men are with us to shoulder what may become an unpleasant responsibility."

It appears to an unprejudiced observer that Dr. Yandell's actions contradict his own statement, which we can only excuse upon the ground that it was evidently not intended for publication.

THE AMERICAN LARYNGOLOGICAL ASSOCIATION during the past week has held a very pleasant and we hope profitable session in Philadelphia, at its Eighth Annual Congress, at the Hall of the College of Physicians. Morning and afternoon sessions were held, which were well attended, and the papers and discussions were fully up to the high standard of previous meetings. A reception was given by the President, Dr. Harrison Allen, at his house, May 27, and last evening the annual dinner was given at the St. George Hotel. The exercises will terminate with a carriage-excursion this afternoon.



## NOTES FROM SPECIAL CORRESPONDENTS.

## NEW ORLEANS.

THE feature of greatest medical interest in New Orleans is the Charity Hospital, located on Common Street, within ten minutes' walk of the business centre of the city. The hospital was founded in the year 1786, although the present building was not erected until 1832. In the main hall of the hospital a marble tablet commemorates the foundation, as follows:

THE  
CHARITY HOSPITAL

OF LOUISIANA

WAS FOUNDED IN THE YEAR 1786

BY

DON ANDRES ALMONASTER Y ROXAS,

To whose generous endowment, the munificence of the Legislature of this State, and the liberality of the

STATE OF PENNSYLVANIA,

The community is indebted for the means of erecting this edifice, built in the year

MDCCCLXXXII,

His Excellency A. B. Roman being Governor and Ex-Officio President of the Institution.

*To record which, and inscribe hereon the names and contributions of its distinguished benefactors,*

THIS TABLET HAS BEEN ERECTED.

Etienne Boré.....	\$1,000.00
Robert Cune.....	1,000.00
Julian Poydras, Real Estate Estimated.....	35,000.00
Nancy Davenport.....	500.00
James E. North.....	
Eugene McCarthy.....	600.00
R. G. Taylor.....	523.50
Charles Schmidt.....	500.00
John Burnside.....	10,000.00
Stephen Henderson, Cotton Press property	
Estimated.....	45,000.00
R. Y. Charnbury.....	1,000.00

Mrs. Cora Livingston Barton, who died some years ago, left to the Hospital the sum of six thousand dollars, to be paid out of a fund to be derived from the sale of the property No. 751 Broadway, New York, upon the death of Julia Barton Hunt and the Hon. Carleton Hunt, who, in the mean time, have the usufruct of said property.

The hospital is built upon the block-plan, the buildings occupying a large square, surrounding an open court, and connected by corridors. The south end of the block is of recent construction, but is built upon the same general plan; the buildings are three stories in height. A dead-house, separate from the hospital, has recently been built; this is two stories high, the first being occupied as a morgue and autopsy-room; there are also rooms to receive the bodies of those claimed by friends, and where services can be held prior to burial. The upper floor is used as a pathological laboratory by Dr. H. D. Schmidt, the pathologist to the hospital. The board of administrators has been liberal in furnishing to Dr. Schmidt facilities for the pursuit of

his work, and an excellent museum of gross and microscopic pathology is growing up. The venerable director of the laboratory is enthusiastic in his work, and, although almost entirely helpless from the effects of the rheumatism which has been his life-long foe, his brain is as active as ever. Dr. Schmidt's gross and microscopic sections of the brain and other nervous tissues are the admiration of both anatomical and neurological specialists. Although in the vicinity of threescore years, with whitened hair and beard, totally unable to walk or move his fingers, and with but a limited range of motion in his elbows, he has now in contemplation an original work upon the histology and topographical anatomy of the nervous system, illustrated on stone by his own hand from nature. It is hoped he will be spared to finish this great work. Dr. Schmidt's eminent qualifications for such a work will make its success certain from the scientific and artistic points of view; the profession owes it to itself to make it a pecuniary success likewise. Dr. Schmidt has also written several monographs upon pulmonary pathology which will soon be published.

The daily average of patients in the hospital during the past year was six hundred and five, the total number of admissions during the year six thousand one hundred and forty-three, and the total number of deaths one thousand and five,—a death-rate of fourteen per cent. In addition, there were thirteen thousand five hundred and eighty-five patients treated in the out-patient department of the hospital. The total number of cases of malarial fever was nineteen hundred and forty-four, which was over one thousand less than were admitted in the preceding year.

Several cases of leprosy are now under treatment, and, according to the clinical records of the cases, are improving under the internal and external use of chaulmoogra oil.

Since the present hospital has been built, in 1832, four hundred and twenty thousand three hundred and eighty-one patients have been admitted, of which sixty-two thousand and twenty have died. This is exclusive of the year 1863, when the city was under the Butler régime and no report of the hospital was issued. The average death-rate for these fifty-three years is 14.75 per cent.

As stated in the memorial tablet above quoted, the present hospital was built in 1832, through the endowment of Don Andres Almonaster, the munificence of the Louisiana Legislature, and the liberality of the State of Pennsylvania.

The circumstances under which the Keystone State contributed to the building of a hospital so far beyond her borders were communicated to me by Dr. F. W. Parham, one of the house-surgeons.

About 1827 the Legislature of Pennsylvania voted a gift of ten thousand dollars to that charity, for the reason that many of the citi-

zens of this State engaged in the river-trade received its benefits. No other State bordering on the great internal water-way has ever contributed a dollar towards this hospital, although it is always open for the reception of the sick from everywhere. This makes the bounty of the Keystone State the more noticeable, and it is remembered with gratitude by the administrators of the institution.

The main support of the hospital at present is derived from the Louisiana State Lottery Company, which contributes forty thousand dollars per year to its income, and the Legislature of the State, which appropriates an average of forty-five thousand dollars per year for this purpose. There is, however, a considerable loss on the latter, owing to the large discount on Louisiana State warrants. Thus, in the last two years the discount amounted to twenty-seven per cent., equivalent to a total loss to the hospital of twenty-four thousand nine hundred dollars. The average annual expenditure for the maintenance of the hospital amounts to nearly a quarter of a million dollars.

The ambulance system of the hospital is very efficient, though only lately established. There are two wagons constructed with all the latest improvements for this service. The ambulance corps consists of fourteen resident students of the hospital. The wagons have right of way over all vehicles except those of the fire department and United States mail. The system of signalling to the stable-men, drivers, and ambulance-surgeons is perfect, and in from two to three minutes after the call is received at the hospital the ambulance is under way to the place where it is needed.

In 1884 the University of Louisiana received a large endowment from Mr. Paul Tulane, formerly of this city, but now a resident of Princeton, New Jersey. The medical department of the University has not benefited much from this endowment as yet, although the school is known as the Tulane University. The medical and surgical service of the Charity Hospital is in the hands of the faculty of the University, and thus excellent clinical material is at the disposal of the school.

A cremation society has recently been organized, of which Dr. Felix Formento, who wrote the article on "Cremation" in Wood's "Reference Hand-Book," is president. There are a number of ardent crematists in this city.

On the 10th of May the quarantine goes into effect at this port. Vessels are divided into four classes, according as they are infected, from infected ports, from suspicious ports, or from healthy ports. The quarantine is one of active disinfection and observation. Vessels and passengers are detained only long enough to permit of thorough disinfection or to allow the incubative period of the disease to which the vessel, its cargo, or passengers have been exposed to elapse. The disinfectants used are mercuric bichloride in solution

or spray (one to one thousand) and sulphur dioxide. The sulphurous acid is forced into the hold under strong pressure, and permeates every nook and cranny of the vessel. All accessible parts are washed with bichloride solution; all baggage and bedding is likewise washed in the disinfectant. At the station are large disinfecting chambers, where the cargo can likewise be subjected to the action of germicide agents. A very large drying-apparatus has recently been added, which will enable the period of detention to be materially abbreviated.

The New Orleans quarantine is now admitted to be the most thorough and efficient in this country. If honestly administered, it should prove absolutely protective against the importation of infectious diseases. While the Louisiana State Board of Health, which controls the quarantine, remains unhampered by legislative restrictions, and commands the services of faithful officials, as at present, the Mississippi Valley need fear no importation of exotic disease.

Dr. Joseph Holt, who recently tendered his resignation as President of the Board, has been induced to reconsider his determination and remain in the service of the State in the same capacity. Last month Dr. L. F. Solomon, an active young sanitarian, was elected Secretary of the Board.

The failure of the yellow-fever commission bill to pass the national House of Representatives last week has caused much disappointment here.

G. H. R.

NEW ORLEANS, May 1, 1886.

#### NEW YORK.

AT the stated meeting of the Academy of Medicine, held May 6, the President, Abraham Jacobi, M.D., in the chair, Dr. H. G. Piffard made an interesting demonstration with the stereopticon, chiefly from photographs of living subjects suffering from various skin-diseases. He had made use of this form of demonstration at his lectures at the University Medical College, and had found it to possess advantages over the presentation of photographs for inspection by the students, and even over the exhibition of the patients themselves, whom only the students seated near the arena had an opportunity to inspect closely. Some of the diseases illustrated were epithelioma, lupus, eczema, alopecia, favus, generalized melanosis, sarcoma, "barbers' itch," the eruptions of syphilis, of local poisoning, leprosy, elephantiasis. Sections of the nails, and of the skin in health and in disease, were also exhibited. Some of the photographs were taken by the author from patients while in his office, others were by different artists, and some were presented to him by specialists in this and other cities.

## BALTIMORE.

A RECENT paper by Dr. W. T. Barnard, of Baltimore, entitled "The Relations of Railway Managers and Employés," contains interesting details of the organization and working of the Baltimore and Ohio Employés' Relief Association. The paper considers many points of sanitary and professional as well as of purely social and economic interest. The members of the Association, numbering now nearly twenty thousand, obtain medical attendance at a reduction from the usual charges. The Society's fee-bill, appended to the last annual report, shows that the charges for medical and surgical services are about half the usual fees charged by practitioners in good standing. Surgical services in cases of accident occurring in the performance of duty are paid for by the Association, and during the year 1885 the sum thus expended amounted to over fifty thousand dollars. The Association has a number of medical inspectors, employed at a regular salary, whose duties consist in investigating cases of disability, methods of treatment, the sanitary condition of cars, buildings, baggage, etc. They also examine into the physical condition of all applicants for admission into the company's service.

The Association has many interesting economic and social features, such as life-assurance, superannuation fund, savings-bank, circulating library, homestead fund, etc., to which we cannot refer here. The feature of most interest to physicians is the practical instruction in preventive medicine which the Association gives. Upon this point Dr. Barnard says, "The rigid sanitary supervision exercised by the Association through its medical inspectors over every portion of the line enables it to check and control many disorders before they have assumed grave proportions. Thus, some years ago, when smallpox was prevalent at many points tapped by the Baltimore and Ohio system, over twelve thousand employés (and, in dangerous localities, their immediate families) were vaccinated by the medical inspectors at Association expense; and, though many employés were greatly exposed to contagion, less than a dozen were affected, and but two died from the disease. It is somewhat remarkable that nearly eighty-five per cent. were successful vaccinations or revaccinations. When diarrhoeal, dysenteric, or typhoid disorders become prevalent at any point they are immediately checked by appropriate remedies placed at the disposal of the medical inspectors, master-mechanics, and supervisors, with explicit directions for use. Malarial disorders especially have been kept well under control by the distribution of large quantities of approved antiperiodic remedies, which are at the command of every member."

Although the Baltimore and Ohio Company

gave the first impulse to the organization of the Relief Association and has liberally endowed and otherwise aided it, probably largely for business reasons, the most important result achieved is unquestionably the sanitary education of the employés. Under intelligent direction this feature may be made of the highest possible usefulness. Should other corporations follow this example, the realization of the dream of the sanitarian—that preventive medicine shall be recognized as at least of equal importance with curative—may not be so far in the future. G. H. R.

## PROCEEDINGS OF SOCIETIES.

## AMERICAN MEDICAL ASSOCIATION.

THE following is an abstract of the proceedings in the several Sections at the Thirty-Seventh Annual Meeting of the Association, held at St. Louis.

## SECTION ON PRACTICE OF MEDICINE, MATERIA MEDICA, AND PHYSIOLOGY.

J. F. Whittaker, M.D., of Cincinnati, Ohio, Chairman; B. L. Coleman, of Lexington, Kentucky, Secretary.

Dr. Albert C. Haven, of Lake Forest, Illinois, read the first paper, on

## THE ETIOLOGY OF DISEASE.

The writer declared that life is impossible to define, but it is known to act in accordance with peculiar laws. Protoplasm assumes different permanent forms in conformity with law. Disease is external in its origin primarily, but its effects may be transmitted by heredity. This is exemplified in the zymotic diseases. Much light has been thrown upon the etiology of disease by experimentation. He regarded condemned criminals as fit subjects for physiological experiment.

This led to a discussion upon the bacterial origin of disease. Dr. Wetmore, of Illinois, contended for better recognition of the chemical changes in the tissues in disease. Dr. Bremer, of St. Louis, defended the bacillary origin of tubercle, and declared that the bacterial theory of the etiology of disease is now a logical deduction from the facts of experiment. Dr. J. S. Lynch, of Baltimore, regarded the bacteria as carriers or results of diseased processes. No difference can be detected between an inflamed lymphatic and a scrofulous gland prior to caseation. He claimed that the bacteria accompanying the caseating process are secondary and not causative.

The next paper, by Frederick N. Huston, of Rockland, Maine, was entitled

## THE EFFECTS OF CERTAIN PHYSIOLOGICAL PRINCIPLES THAT HAVE NOT BEEN NOTICED IN AID OF THE CIRCULATION OF THE BLOOD.

In the absence of the author, it was pre-

sented and read by Francis E. Hitchcock, M.D., of Rockland, Maine.

Reviewing the usual physiological theories as to the cause of the circulation of the blood, the writer considered them insufficient to explain all the phenomena. Cohesion he held to be a force acting in the blood-vessels, owing to the absence of air in the vessels. The conditions are somewhat like those of a siphon-pump. He claimed that each contraction of the ventricles exerts a force upon the venous circulation, as it does upon the arterial side, though not by a *vis a tergo*, but by a contrary action,—through cohesion.

An air-bubble entering the vein increases in size and breaks up into a number of bubbles, owing to the aspirating force of the respiratory movements of the chest. His own observation was that if a patient holds his breath when a hypodermic injection of morphine is given, there is less danger of the accidental introduction of air into the vein than under ordinary circumstances.

The paper closed with a brief notice of the sounds and impulse of the heart.

A paper was then read by L. Bremer, M.D., of St. Louis, Missouri, entitled

#### ESSENTIAL VERTIGO.

Vertigo, when severe and persistent, interfering with comfort and occupation of the patient, demands consideration as a disease. Essential vertigo, as defined by Nothnagel and others (also idiopathic or simple vertigo), is a form which occurs in the absence of cause-lesion, generally occurring in the neurasthenic. Agarophobia, topophobia, and dinophobia are among the prominent symptoms of this kind of vertigo. Hallucinations and psychical symptoms are also prominent in some cases. Complications of disordered hearing, vision, or digestion frequently accompany the disease, but this must not therefore be confounded with aural, ocular, or stomachal vertigo.

An equilibrical cerebral centre has not yet been definitely located, as the machinery of equilibration is complex. In the production of vertigo the writer believed that the medulla oblongata and the subsidiary or local vaso-motor centres play an important part. These centres are particularly unstable in the neurasthenic and nervously exhausted. The cerebellum is not, according to recent investigations, the exclusive co-ordinating or equilibrical centre, but it is one of reinforcement of the motor impulses as they are transmissible from the psycho-motor area to the voluntary muscles. Essential vertigo is generally brought on by a vaso-constriction in those arteries that supply the mid-brain, the recognized seat of the centre of equilibration. But this vaso-constriction is chronic, and with this a more or less permanent irritability and instability of the equilibrical ganglionic cells is brought about. In advanced and confirmed cases the highest sensory impressions suffice

to bring on the vertigo without the vascular disturbance. The remote cause of essential vertigo is a neurotic disposition; the proximate causes are exhausting diseases, excesses of all kinds, the rays of the sun, overheated and badly-ventilated rooms, indigestion, mental maladies, and (in a great many sections of the country) malaria. The last-named disease constitutes a fertile soil for growth and development of all kinds of neuroses. Even after malaria is cured, the vertigo caused by it may persist. The seasons play an important part in the vertigo: moderately-cold winter months, May, and June are the most favorable to the patients; the heat of the summer months is prejudicial to them. Therapeutic measures must be reconstructive in character. The food and clothing (wool) must be the chief objects in treatment. There is scarcely a case of vertigo without indigestion, usually nervous dyspepsia; yet we can't call such a case one *a stomacho laxo*, although the stomach, above all, has to be treated. Cold water is a useful and powerful remedy; warm bathing and hot water are injurious; the bromides and quinine give temporary relief; iron generally aggravates the trouble, although judging *a priori* it is indicated.

Vertigo patients are, as a rule, anæmic. Arsenic is often useful; the vaso-motor remedies, as, *par excellence*, amyl nitrite and ergot, seem to have no influence on either anæmic or hyperæmic vertigo. Electro-therapeutic measures have in my hands failed completely. The prognosis is good *quoad vitam*, but bad *quoad valetudinam completam*. Life is surely compromised by essential vertigo, and patients may grow old with it, but the constant alarm experienced by the patients may set up physical and psychical ailments of greater or less gravity. An ominous symptom is loss of memory and confusion of thought. It would be a comparatively easy task to combat vertigo successfully were it not for the fact that we have in most instances to deal with bad habits (alcohol and tobacco), unwholesome surroundings, and adverse circumstances of a financial nature. However complete the success of treatment in a case may seem, there always remains a tendency to relapse. Like the sword of Damocles, vertigo hovers over the head of the predisposed, ready to descend on the victim when least expected.

The next paper, read by Dr. O. T. Shultz, of Mt. Vernon, Indiana, was on

#### THE USE OF SO-CALLED ANTIPYRETIC DOSES OF QUININE IN TYPHOID PNEUMONIA.

Quinine is useful in pneumonia not only because of the reduction in temperature which it causes, but also on account of its favorable influence upon the course of the disease.

Confining the inquiry to the effects accompanying the methodical exhibition of so-called antipyretic doses of quinine in cases of typhoid pneumonia, and what precautions must be



observed in administering such doses, he explained at the outset that his practice lay in a region lying at the confluence of two rivers in Indiana (Ohio and Wabash) and among farmers. From May, 1875, to May, 1886, he attended two hundred and thirty-eight cases of croupous pneumonia, chiefly asthenic, with a mortality of six and a half per cent.

Quinine not only reduces the pyrexia, but also slows the heart's action by ten to thirty beats, and the pulse becomes stronger and fuller; it averts the danger of heart-paralysis; respiration is also favorably influenced, and the patient's general condition is improved. He also claimed that the course and termination of the disease are modified, though the duration may not be shortened.

The administration is to be governed by the following rules. Quinine must be given early, or as soon as typhoid symptoms appear, and in most cases the large doses should begin on the fifth day of the disease. If there be very high temperature or signs of heart-failure, it should be administered as soon as the condition is recognized. The dose is fifteen to thirty grains, with hydrochloric acid in solution, given every evening if the temperature be  $102^{\circ}$  or over, or, if the pulse be weak, to be continued until defervescence takes place. If the heart be very weak, the quinine should be preceded by brandy or whiskey, or from three- to five-grain doses of camphor given every hour, until the danger of fatal prostration has passed, before giving the quinine.

Dr. S. S. Laws, of Columbia, Missouri, read a biographical sketch of Louis Pasteur, recognizing the value of his labors in their application to medical science.

Dr. Philip Zenner, of Cincinnati, read a paper entitled

VALUE OF THE KNEE-PHENOMENON IN THE  
DIAGNOSIS OF DISEASES OF THE NERVOUS  
SYSTEM.

This phenomenon has been known to the profession since the simultaneous publications of Erb and Westphal in 1875. Its clinical significance is attached to the fact, pointed out by Westphal in his earliest publication, that it is present in health and absent in cases of locomotor ataxia, usually disappearing at the very commencement of the disease. It may also be absent in anterior poliomyelitis and neuritis when the lumbar portion of the spinal cord or its nerves are the seat of disease. It may also be absent in many cases of diabetes mellitus, and is sometimes temporarily abolished in chronic alcoholism and after attacks of diphtheria.

Various examinations have been made to determine whether it is absent in health. Berger missed it in 22 out of 1409 healthy men; Eulenberg, in 4.8 per cent. of healthy adults and 5 per cent. of children; Bloch, in 5 out of 694 school-children. Pelizans examined 2403 school-children; at first he missed it

in 6, but finally he obtained it in every one. Jendrassik examined 1000 persons, chiefly adults, not suffering with nervous diseases, and elicited the phenomenon in all but one, a case of diabetes mellitus.

The author then gave his own observations, which had embraced the examination of 2106 persons, all of whom were adults and chiefly males. Of these, 1174 were inmates of various insane asylums; the others, except 100 in the medical wards of the city hospital, were mostly in apparent health. Of this number, the knee-phenomenon was abolished in 28, 5 of whom had fully-developed locomotor ataxia, 12 were in the earlier stages of the same disease, while 11 manifested no other symptom of disease of the cord.

The cases of insanity were treated of separately, because Westphal had shown that in such cases the absence of this phenomenon, even when there are no other symptoms, is strong presumptive evidence of disease of the posterior columns of the cord, and because of its special value in diagnosing the form of insanity. Of the 28 cases of insanity with abolished knee-phenomenon, 10 were cases of general paralysis, and in 2 it was doubtful whether there was general paralysis or not, notwithstanding the fact that there were at that time very few cases of general paralysis in the asylum. In many cases of general paralysis and locomotor ataxia we have reflectory rigidity of the pupils: they do not respond to light. In 4000 insane, 492 had rigidity of the pupils, 85 per cent. of whom had general paralysis. Nine out of 10 of the essayist's cases of general paralysis had pupil-symptoms, 1 out of the 2 doubtful cases, and only 2 out of the 11 other cases. Absence of knee-phenomenon and presence of rigidity of the pupils are of great assistance in diagnosing obscure cases.

In 932 sane persons, the knee-phenomenon was found absent in five, only two of whom had a healthy spinal cord. The fact that the phenomenon is absent in other pathological conditions does not lessen its significance in locomotor ataxia, for the other conditions can be easily differentiated. In the author's experience it is not so often absent in diabetes mellitus as some observers believe. Rosenstein missed it in 6 out of 9 cases, and Bouchard in 19 out of 66. The author found it present in all. He did not think it often present in chronic alcoholism. He had examined quite a number of cases in the city hospital, and 404 men at the workhouse, who were many of them hard drinkers. Strychnia restores it in chronic alcoholism, but does not in locomotor ataxia.

The author then spoke of the method of eliciting the knee-jerk. After careless examinations it is often said to be absent when it can be readily elicited. The ordinary method will answer in most cases, but in some it will

not. Should it fail, the person should sit upon a table with the legs dangling and the knees entirely exposed, and the ligament be struck in every part. In a small number there will still be failure by this method. For such cases Jendrassik has recently pointed out another method. The patient is seated as above, and while the examiner strikes upon the ligament he is requested to link the bent fingers with one another and pull as hard as he can. This augments the muscular tonus, and the response increases. This method has enabled the author to find it in a number of cases which did not respond before. So great was the difference that the author thought he might find it in some cases of locomotor ataxia; but he failed. In some of his cases the response, though present, was so slight that it might be pathological.

Is the phenomenon always absent in locomotor ataxia? Westphal says it is in typical cases, whenever the disease affects the posterior columns in the lumbar region, which occurs usually at an early period. Later writers have reported cases with post-mortems where it was present. This, however, is so rare as to be of little significance. The essayist had never seen it absent but once, and in this case the appearance was that of a diffuse myelitis rather than of a systemic disease of the cord. He had a number of cases under observation at present where the phenomenon was abolished on one side and difficult to elicit, but these were all still in the earlier stages of the disease.

Dr. Joseph Jones, of New Orleans, reported, with observations, the results of medical treatment in the Charity Hospital, New Orleans, during the years between 1869 and 1886.

Dr. A. F. Potter, of Boston, read a volunteer paper on

#### POTASSIUM CHLORIDE,

in which he called attention to the restorative value of this remedy, especially to the muscular system. He used it in conjunction with iron and bichloride of mercury with excellent effect in anæmia and debility.

Dr. John A. Ochterlony, of Louisville, Kentucky, read a paper on

#### THE CLINICAL ASPECTS OF MALIGNANT RENAL DISEASE,

which was illustrated by cases and drawings.

The rarity of the disease was set forth, and the great diversity and irregularity of its symptoms were pointed out.

The writer called attention to the feeble influence of heredity in this form of cancer: he had found that external violence often appeared to be the most important factor in its production.

A number of cases were quoted, showing that renal calculi had a causative relation to it. It was suggested that floating kidney was also prone to take on malignant degeneration.

The main symptoms—the presence of a tumor, pain, hæmaturia—may each and all be entirely wanting.

Among the more unusual complications mentioned were perforation of the duodenum, jaundice (by pressure of a cancerous right kidney upon the biliary ducts), ascites, implication of spinal cord with hemiplegia, peritonitis, etc.

The diagnosis is often fraught with difficulty. Cancer of the stomach and of the liver, enlargement of the spleen, mesenteric tumors, hydronephrosis, cystic degeneration of the kidneys, uterine and ovarian tumors, abdominal aneurism, have all been confounded with renal cancer.

Several tables setting forth the differential diagnosis were given, among them the following.

The differential diagnosis between cancer of the stomach and cancer of the kidney rests upon the following characters:

#### Cancer of Stomach.

Vomiting is the rule.  
Hæmatemesis.  
Hæmaturia absent.  
Tumor in epigastrium.  
Tumor small.  
Tumor movable.  
Tumor descends with diaphragm.

#### Cancer of Kidney.

Vomiting generally absent.  
Blood very rarely vomited.  
Hæmaturia generally present.  
Tumor in one or other flank.  
Growth often very large.  
Tumor generally fixed.  
Tumor does not descend with diaphragm.

Enlarged spleen and renal cancer may be distinguished by attention to the following points:

#### Enlargement of Spleen.

Absence of descending colon in front of tumor.  
Border of tumor often thin, rigid, smooth, but not rounded.  
Extends upward under the ribs.  
Direction of tumor downward and inward.  
Very movable.  
History of malaria or leucocythæmia.

#### Renal Cancer. (Left Kidney.)

Descending colon may be found in front, vertically dividing the tumor into two lateral halves.  
Border irregular, nodulated, rounded, not thin.  
Does not extend under the ribs.  
Extends downward, chiefly towards iliac fossa.  
Generally almost or quite immovable.  
No history of malaria or leucocythæmia.

Hydronephrosis may be separated from renal cancer as follows:

#### Hydronephrosis.

Generally unilateral.  
Tumor soft.  
Fluctuating.  
Tumor liable to subside suddenly at times, with copious discharge of urine.  
Tumor not likely to reach excessive development.  
Movable.  
Descends with diaphragm.  
Slow growth.  
No cachexia.

#### Renal Cancer.

Generally unilateral.  
Tumor hard, or irregularly soft.  
Rarely or imperfectly so.  
Tumor permanent.  
Tumor often of enormous size.  
Generally fixed.  
Does not do so.  
Rapid growth.  
Cachexia present.

Another form of renal disease likely to be confounded with it may be distinguished as follows:

<i>Renal Cancer.</i>	<i>Cystic Degeneration.</i>
Generally unilateral.	A bilateral affection.
Tumor may reach much greater size than is ever attained by cystic degeneration.	Tumor not very large.
Tumor stationary, and does not move with diaphragm.	Tumor movable.
Course more rapid.	Course rather chronic.
Cachexia tends to develop early.	No cachexia.
Death generally by exhaustion.	Death by uræmia.

Finally, ovarian tumor is to be diagnosed from renal cancer:

<i>Ovarian Tumor.</i>	<i>Renal Cancer.</i>
Generally unilateral.	Generally unilateral.
Develops from below.	Develops from above.
Tumor soft.	Tumor hard.
Tumor generally smooth.	Tumor irregularly nodulated.
Intestine pushed aside. Resonance to the outer side, with central dullness.	Loop of intestine common.
Aspiration brings away characteristic ovarian fluid.	Dullness to the outside.
	Aspiration brings pure blood or sero-sanguinolent fluid, sometimes cancerous material at point of needle.

The mode of termination of renal cancer is generally by exhaustion, or by intercurrent inflammation. Death by uræmia is found to be very rare.

The treatment must necessarily be palliative so far as drugs are concerned. Surgery, however, has done a good deal towards prolonging life, and in some instances restoring the health of patients with renal cancer.

Among the dangers are coexistent malignant disease of the other kidney, absence of the other kidney, coexistent chronic inflammatory disease in the non-cancerous gland.

The paper closed with a résumé of published nephrectomies for malignant disease of the kidney.

This was followed by a volunteer paper by Dr. J. W. McLaughlin, of Austin, Texas, on

#### THE ETIOLOGY OF DENGUE.

As a matter of clinical observation during the epidemic of dengue last fall in Texas, the lecturer had been able to demonstrate the contagious nature of the disease. In the blood he discovered micrococci spherical in shape and red or pink in color, often surrounded by gelatinous envelopes or capsules. He always succeeded in growing in culture-tubes, upon the surface of the jelly, micrococci, and no other form of bacteria, which in size, color, shape, and behavior are identical with those seen in fresh dengue-blood. These organisms were also found in blood kept in sterilized bulbs for three months. They were also detected in the vomited matters, likewise in the urine, of malignant cases. The best reagent for staining he found to be methyl blue in a solution of caustic potash. These micro-organisms were uniformly found in the blood of about forty cases of dengue, and in every instance the tubes inoculated showed upon the surface of the jelly at the

point of inoculation a white spot elevated above the surface. When a small amount of this was examined under a high power, it showed invariably a pure culture of micrococci which in every respect were identical with those found in the blood. The uniformity of these results in growing pure cultures of dengue micrococci certainly indicates that the matter of inoculation came from a common source,—i.e., the blood.

Dr. Herbert F. Williams, of New York, read a paper on

#### PNEUMATIC DIFFERENTIATION,

and demonstrated the working of the Pneumatic Cabinet. (See page 655.)

Dr. Fletcher Ingals, of Chicago, and Dr. Whittaker spoke in favor of the use of the cabinet, especially in the early stage of phthisis.

Dr. F. H. Patten, of Dayton, Ohio, read a paper on

#### PNEUMONIA IN THE OLD,

recommending restorative and supporting treatment.

Two papers were next presented and read by title: "Meconeuropathia," by C. H. Hughes, and "Laws Determining Sex," by Robert Funkhouser, both of St. Louis.

#### SECTION ON OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN.

Dr. C. S. Gordon, of Portland, Maine, Chairman; Dr. J. F. Y. Paine, of Galveston, Texas, Secretary.

*First Day.*—Dr. W. H. Wathen, of Louisville, Kentucky, read a very interesting paper on

#### THE TREATMENT OF THE MEMBRANES IN ABORTION AND IN LABOR.

The lecturer directed attention to the diversity of opinion in the profession as to the anatomy of the membranes and to the mechanism of their separation and expulsion, also to the relations which the membranes, foetal and maternal, sustain to each other. He claimed that the membranes are separated, usually, after the expulsion of the foetus, and that the placenta presents in the os folded on its foetal or amniotic surface, except in fundal implantations or where it is inverted by drawing upon the cord. He opposed expectant methods in any instance, and advised the removal of the membranes in all cases, except in those of abortion before the end of the second month. Before this time, there being no placenta, he does not remove retained membranes, if bleeding ceases, unless they protrude through the os and can be removed without introducing the finger into the uterus. He practises Crédé's method of expression, and sometimes supplements this by drawing gently with the

fingers on the edge of the placenta. He dilates the os and then removes the membranes with the fingers; but if the os cannot be dilated by the fingers he uses Ellinger's dilator, his own modification of Leonard's dilator, or a Molesworth dilator. He anesthetizes the patient and introduces a part or his entire hand into the vagina, and dilates the os and explores the entire uterine cavity, separating and removing the membranes. He advised disinfection of the hands, etc., in all cases, but showed from statistics that the results of expectation are more unfavorable than the results following the immediate removal. He opposed the use of ergot until the membranes are expelled.

Dr. Fuller, of Maine, thought the paper one of great utility. His practice has been uniformly to force delivery of the placenta as soon and as readily as he could. In his experience prompt removal of the placenta prevents hemorrhage. Generally he secures the placenta within five minutes, which haste he considers a measure of safety.

Dr. W. P. King, of Sedalia, Missouri, during twenty years had seven hundred and nineteen natural labors and twice as many abortions. His practice had been early removal of the placenta if at any period near term. He generally waited long enough for another pain, judging from the past, and, if the patient does not have one, he makes her have one. He spoke of unbuttoning the placenta and turning it out as a boy does his tongue. He recommended dilatation with the finger and forceps, then to go in with the duck-billed forceps. He never failed in the last few years to wash out the uterus with hot (115° to 135° F.) sublimate-solution (1:4000). He carried a concentrated solution, and made the dilute solution on the spot. He used the reflex catheter, and washed out till the water returned clear. He rendered the hand aseptic. The two oft-quoted cases, the Indian woman and the white, he thought not at all analogous. In closing, he recommended asepsis and a clean removal of everything.

Dr. Garcelon, of Maine, asked if he understood the last gentleman aright that he had twice as many abortions as natural labors.

Dr. King replied that he did.

Dr. Garcelon asked what kind of people he lived among.

Dr. King replied that they were chiefly immigrants from New England.

Dr. C. R. Reed, of Middleport, Ohio, does not wait as long now as he used to. He found that the longer he waited the more the os contracted, and the greater was the difficulty of removal.

Dr. Potter, of Buffalo, thought that this subject would from now to the crack of doom be a point of earnest discussion in the medical world. He criticised the use of the terms massage and Cr  de's method as used in the discussion. Merely to make suprapubic press-

ure was not Cr  de's method, but to place the fingers behind the fundus uteri and the thumb in front of it and turn the placenta out as we do a peach-seed. Beyond and above the question of hemorrhage was that of subinvolution of a hyperplastic character.

Dr. Morris, of Baltimore, favored the opposition to delay expressed in the discussion. He never allowed a woman to lie twenty minutes without delivering the placenta. He believed in heroic treatment. In abortion we cannot treat so heroically.

Dr. Hunter, of Minneapolis, spoke adversely to intra-uterine injections. He had helped to kill one woman with these injections, since which time he held for the uterine cavity the greatest respect. He has experienced unfavorable results after the use of a 1 to 2000 sublimate solution.

Dr. W. W. Potter, of Buffalo, then read a paper entitled

#### SOME OBSERVATIONS ON THE UTERINE SOUND, WITH SPECIAL REFERENCE TO ITS USE IN GYN  COLOGICAL THERAPEUTICS.

It was but a few years ago when a Ferguson's speculum, caustic-holder, uterine dressing-forceps, and Simpson's sound were an ample outfit for the practice of gynecology. The sound has been used in almost every malady peculiar to the pelvic organs, and I am sure it is in the range of truth to assert that this instrument has done woman more harm than any other used in the management of her diseases. The young physician is prone to its use, and, sad to say, often causes irreparable damage to the genital tract or health of woman. Nor is this animadversion applicable exclusively and alone to the professional novice. His experience has taught him, in every instance in those cases which seem to invite its use for diagnostic purposes, to use it with the utmost caution, circumspection, and gentleness. He insisted that this instrument should be applied only as a *dernier ressort* and in conjunction with extreme doubt. Have we not repeatedly seen the endometrium so sensitive as to spring into violent inflammation as a result of contact with the sound? Metritis, both peri- and parametritis, salpingitis, ovaritis, pelvic cellulitis, are among the results. Woman has been caused to abort in numberless instances by the use of the sound, and it is often the remote cause of those indescribable symptoms, reflex in character, which we call neuroses,—hystero-neuroses, if you please,—that are difficult to locate, but are bearable: neuralgias, headaches, backaches, etc. Mr. Lawson Tait has found that, as his experience increases, his use of the speculum and sound grows less and less. This comes from the increased *tactus eruditus*. He says, "Educate the finger-tips." This were well; but no novice or mere general practitioner—in fact, few of us—can reach the perfection of



a Tait. However, the nearer we can come to attaining this the better gynecologists we are, and the less will we use the sound.

The essayist said that the os uteri should always be patulous and the endometrium free from disease before the sound is used. When necessary, the delicate virgin-silver probe of Sims is better and safer than the Simpson sound. This should never be passed at the first interview. We should, if possible, avoid it until we are quite familiar with the topography and peculiarities of the sexual tract of our patient. We should wrap absorbent cotton about the instrument to serve as a cushion for the metal. He could not speak in too strong terms against the use of the sound to replace the retroposed uterus: he named this use of the instrument as barbarous practice, and recommended the intelligent and persistent use of manipulation and the genu-pectoral position. The sound has taught us some good things, chief among them being the better use of our fingers. He hoped that with the use of the better-educated finger-tips the sound would grow less and less in demand and use, and we shall be rid of much of the opprobrium which the young and growing art, gynecology, is now compelled to suffer.

Dr. Gordon, the President, in a neat speech, complimented the paper very highly and endorsed every word of it.

Dr. George Engelman, of St. Louis, arose to express his thanks to Dr. Potter for having expressed in words what the speaker had practised for years. He has quite a collection of sounds, but in the past three years has not used one of them; the finger is more satisfactory and true; the sound is useless in the great majority of cases. We have used ergot, the applicator, and the sound to the great injury of women; we are progressing in gynecology by dispensing with these. He had even found it unnecessary to use the soft, pliable sound wrapped with cotton. The finger must be used for diagnostic purposes far more frequently than it is; injury from the sound, in the aggregate, is far greater than the benefit derived.

*Second Day.*—Dr. H. O. Marcy, of Boston, made a communication entitled

#### THE LESIONS OF THE PERINEUM, AND THEIR REPAIR.

In commencing his lecture he projected a number of photographs on the screen, taken from a great variety of sources from the time of William Hunter to the present day. He demonstrated clearly the anatomy of the perineum and the importance of support to the parts. He showed the true relations of the so-called perineal body and recto-coccygeal structure; then he reviewed the ordinary methods of repair of lacerated perineum; then he showed the ordinary stitch, which he said was faulty no matter what the material used. The speaker then demonstrated his own operation,

first described in this Section two years ago at Washington. Since that time he has still further perfected it. It was described as follows. When the rupture is incomplete, render the structures tense with the fingers in the rectum and carefully separate subcutaneously, lifting up a considerable depth of vaginal mucous membrane, together with as deep a layer of substructure as the operator may deem necessary. The anterior flaps should be cut without opening into the vagina. This is then lifted and the deeper structures approximated by pins introduced parallel with the rectum and so fixed in their peculiar construction that they look not unlike a safety-pin; they are in two parts, and hold the tissues without strain. Insert two, three, or more in this manner; the pins remain six to ten days. In the complete rupture the operation varies only in the lateral dissections, which are closed in. He advised the emptying of the rectum in two or three days, never allowing the feces to collect.

He showed a number of frozen sections,—one of a woman who hung herself when eight weeks pregnant, and one of a woman who died during delivery; showed the rectum and bladder full and empty; showed work by Savage, Henly, Hart, and others, and Emmet's operation. He then exhibited his safety-pin made of German-silver wire, No. 60, and resembling in appearance a safety-pin.

Dr. E. C. Gehrung, of St. Louis, in the discussion which followed, showed sutures of his own.

Dr. S. C. Gordon, of Portland, Maine, said that for eighteen months he had used nothing but catgut suture in perineal operations, with the exception of the complete rupture. He makes the crescentic denudation, and never has any trouble, pain, or discomfort, as there are no stitches to remove.

Dr. Wathen, of Louisville, Kentucky, in speaking of Dr. Gehrung's sutures, said they had some benefits, but they were more than overcome by the presence of the bodies on each side. He thought it best to use the suture which causes the least pain and perfectly adapted the parts. In incomplete laceration of the perineum a failure is the exception to persons of experience. The operation described by Dr. Marcy has value superior to the operation of Emmet. He thought that Dr. Marcy's needles would cause some pain by their mere presence. The advantage of his operation is that we do not destroy any tissue. Destroy no tissue, get perfect adaptation and union, and no septic matter can get in. Two great improvements are, the manner of denudation and the saving of tissue by Dr. Marcy.

Dr. Gillespie, of Tennessee, thought the time of operation of importance. After three days' delay he has had unusually good results. He prefers Emmet's plan with the silver sutures and the straight round needles.

Dr. Marcy, in reply, said there was no

amount of inconvenience or suffering from the pins if they are placed parallel and do not compress the tissues. He spoke of and showed sutures made from the tails of the fox-squirrel and kangaroo.

Dr. E. W. Cushing, of Boston, Massachusetts, spoke on

#### THE PATHOLOGY OF EROSIONS (SO CALLED) OF THE OS UTERI.

He also used the screen, showing a number of microscopical specimens illustrating the formation of glands in the cervix uteri, and the similarity of erosions and beginning of epithelioma. He endeavored to show the difference between erosions on the os uteri and on the skin, which were said to be so similar.

Dr. A. C. Miller, of Cleveland, Ohio, discussed this paper.

Dr. Franklin H. Martin, of Chicago, read a paper on

#### ELECTROLYSIS IN GYNÆCOLOGY.

The mode of action and the physiological and therapeutical effects of electrolysis were first considered. He mentioned the principal advocates of electrolysis, and enumerated diseases in which it was beneficial,—varices, polypus, nævi, epilation, hydrocele, bronchocele, extra-uterine pregnancy, hernia, hemorrhoids, epithelioma, and uterine fibroid. He also related his experience with an extra-uterine fibroid. This disease is reported cured by this means by numerous authors. He gave the particulars of the application of the remedy, spoke of the mixed galvanic and faradic method, and showed his manner of applying electrolysis.

Dr. Ely Van de Warker, of Syracuse, New York, complimented the author of the paper, and reported a case of his own of solid uterine outgrowth to which he had applied electrolysis. The operation proved to be very painful. The patient groaned and writhed under the pain, though anæsthetized. After three days he observed a rise in temperature, and an abscess followed. The tumor was reduced in size, but the woman was very ill and barely escaped death. Two other cases had submitted to an operation, but the results were negative.

Dr. Robert Newman, of New York, took great interest in the subject. He recommended weak currents. Instead of twenty, thirty, eighty cells, we should use two, three, four, five, six cells. The object is absorption. The strong current does harm, the weak causes absorption. In gynæcology electrolysis has a wide field. There is one great thing,—we have a safe, sure remedy to save the woman suffering from extra-uterine pregnancy. Do not use needles; use electrodes. In cases of hardened tissues electrolysis has done much good in his experience. In malignant growths and cancers it has done good, and has also been followed by failure. In

stricture of the urethra, in females, in his hands it had never failed.

Dr. Hulbert, of St. Louis, said he was an electrical crank. He reported some remarkable cures. He said we should measure the dose as in other remedies, and thought Dr. Van de Warker's failures due to his not having measured his dose.

Dr. George Engelman, of St. Louis, said that the lecturer had only brought this subject before us in a scientific light. He only touched on the results to be attained. He was surprised at Dr. Van de Warker and Dr. Newman speaking so indefinitely of strong and weak currents. He had always insisted on using the galvanometer. Cases have been reported here where cures occurred only after forty-five sittings. If you will measure your electricity you can cure patients in five or six sittings of five minutes each. The kind of electricity used is quite as important as the number of cells. Give a sitting of five minutes and a strength of forty, fifty, eighty, one hundred milliampères, according to how much the patient can bear. It may cause slight pain at first, but should not after that. Avoid the peritoneum if possible, but if necessary pass through it. He uses one needle and a large fourteen- by sixteen-inch plate. The cells are gradually added until the galvanometer shows enough.

Dr. E. G. Zinke, of Cincinnati, read a paper on

#### PUERPERAL FEVER AND THE EARLY EMPLOYMENT OF ANTISEPTIC VAGINAL INJECTIONS.

This paper considered chiefly the value and necessity of antiseptic or simply warm-water injections as recommended for prophylactic purposes in normal cases of labor in private practice. It dwelt largely also upon the differential diagnosis between puerperal septicæmia and remittent fever following parturition. The paper was based upon a case in the doctor's practice, of which the following is a brief report:

Mrs. —, American, æt. 26, suffered a miscarriage at the end of the eighth calendar month. The labor was entirely normal, as was also gestation up to the miscarriage. The placenta came away spontaneously and after only a few moments. The external genitalia were washed, but no antiseptic washes were used.

All went well till the third day, when the patient had a chill followed by a temperature of 106°. She experienced, however, scarcely any pain, and the lochia were free from odor. Two hours later she had another chill, and the temperature went up to 107.5°. Professor Palmer was called in consultation. He thought the high temperature due to something in the uterine cavity, but Dr. Zinke did not think this possible, from the nature of the labor. It was determined to await the action of quinine before washing out the uterine

cavity. Later, carbolyzed warm-water injections and turpentine stupes were added to the treatment. Temperature fell to  $101^{\circ}$ , then rose to  $103^{\circ}$ . Only slight tenderness in the hypogastric region, and the lochia free from odor. When the temperature reached  $104.5^{\circ}$  the uterine cavity was washed out with warm carbolyzed water, using the reflex uterine catheter. This was followed by some pain, but there was no decline in the temperature, neither was there a removal of anything which might be the cause of the trouble. The temperature fell later under the use of tincture of veratrum viride and salicylate of soda.

Comparing the local manifestations with the range of temperature and pulse, he became daily more convinced that the malady was not of a local character. Of course there were physical signs of pelvic cellulitis, but they were not present in the beginning, nor did they ever assume a serious nature. Indeed, the cellulitic condition diminished while the temperature and pulse continued high, having a distinct morning remission and evening exacerbation. From the first he held, and never could free himself from the thought, that some element other than septicæmia through the parturient canal was the active agent in the production of the disease; that possibly—nay, probably—the body had been invaded some time prior to her confinement, and that labor simply precipitated its onslaught on the system.

Was it typhoid or remittent fever? Diarrhœa, rose spots, and stupor were absent. The husband then stated that about a month before her confinement she had complained of languor and chilliness. Was it, then, remittent? In all probability, yes. His consultant did not concur with him. Seventeen days after confinement the temperature was  $99.5^{\circ}$ ; next day  $101.4^{\circ}$  and still rising. The next day, the doctor's orders not being followed, he retired from the case. Subsequent to this she was only part of the time under the care of a physician, and no record of the temperature was kept. The patient recovered after a sickness of two months' duration.

The questions which present themselves for consideration are—

1. Was this a case of puerperal septicæmia, remittent fever, or something else?
2. Could it have been avoided by the early use of antiseptic vaginal injections?
3. To what extent is the use of antiseptics, scientifically and practically, justifiable or necessary?

The reporter did not believe this to be septic, but, if so, thought it must have entered through another channel than the parturient canal. Puerperal fever, he thought, should embrace only those diseases which occur during the puerperal state. He was satisfied that all cases of puerperal fever which find their inception through the obstetric channel from an external cause may, to some extent, be

mitigated or prevented by the early and frequent use of antiseptic vaginal injections. Scarlatina, measles, diphtheria, etc., find their way through other avenues and often mislead the physician.

Antiseptics in normal labor ought not to mean anything except ordinary cleanliness in every respect, the avoidance of frequent examinations and unnecessary aids, needless exposure in the support of the perineum, the tying of the cord, the delivery of the placenta, and the washing after labor.

Washing out the vagina immediately after normal labor, he thought, should be termed meddlesome midwifery: it did no benefit, prevented nothing, and might do harm. In prolonged or instrumental delivery, if the hand has been introduced or if injuries have been sustained, vaginal injections are always—uterine injections rarely—indicated.

The essayist referred to a death after vaginal injections in the practice of Dr. J. C. Cleveland, of Cincinnati, to the writings of Drs. Bartlett and Lydston unfavorable to the routine injections, and related three cases which occurred in his own practice, in which ill effects were observed after vaginal injections most carefully performed.

Out of nearly four hundred cases of labor attended by the essayist, the case reported was the only one which could be suspected of being puerperal fever. From the favorable action of quinine on this patient until her refusal to take it, from her previous history and the impossibility of there being any remains of the placenta, etc., in the womb, the doctor was led to believe this to be a case of remittent fever.

*Third Day.*—The order of business began with the discussion of Dr. Zinke's paper read on the day previous.

Dr. Charles Knapp, of Evansville, Indiana, thought that, from the action of quinine and the non-action of the intra-uterine injections, the case was not of bacterial origin. He believed in antiseptic midwifery, because it was clean midwifery.

Dr. Sargent, of St. Louis, very seldom used intra-uterine injections.

Dr. Reamy, of Cincinnati, thought the especial aim of the author of the paper was to discountenance routine vaginal injections. He wished to go on record as entering his protest against the routine practice of vaginal injections after delivery. He did not wish to be understood as denying the germ theory of the origin of disease, and that physicians and nurses can carry the infection on their hands. If you have septicæmia, then employ your germicides. Are we to consider the vagina of every woman who has borne a child a foul crater? In the vagina after childbirth we have granulations following lesions. Simple injections of water will destroy these granulations and prepare the woman for disease. A vaginal injection to do any good must be

performed every hour. Washing out the vagina one, two, or three times a day is hollow mockery. The nurse may throw the stream into the uterine cavity: hence the physician to have it done properly must do it himself. It is a dangerous practice, routine injection of the vagina, even with water, not to say chemicals. He would favor intra-uterine injections under certain conditions.

Dr. W. W. Potter, of Buffalo, New York, asked where Dr. Reamy drew the exact line of the beginning of septicæmia. This is sometimes plain, sometimes dark. He believed in letting well enough alone. If you have purely natural labor, do not use the injections. If you have interfered manually or instrumentally, use your injections fearing trouble. He recommended Chamberlain's glass tube. If the vagina is foul, it is often a reason for going up higher into the uterus.

Dr. Reamy answered that he was speaking of natural labor. He advised delivering the patient with the highest obstetrical skill, with all gentleness. Keep clean, make no avoidable lesions, and little trouble will follow. Before long it will be the fashion to cremate every woman who has borne a child.

Dr. Zinke said his object in bringing the case before the Section was to show that we as physicians owe not all to our patient, but also something to ourselves. He felt very indignant when the people blamed him for being the cause of all their trouble in the case reported.

Dr. E. S. McKee, of Cincinnati, read a paper entitled

#### THE EARLY DIAGNOSIS OF PREGNANCY.

The author considered the *opprobrium obstetrici* our inability to make a prompt but positive diagnosis of early pregnancy. Reliable evidence is sadly deficient in the first months. This fact in mind, he turned his attention to the symptoms of the first trimester, particularly those of recent discovery. First were considered those signs which might occur at the time of conception. A number were mentioned. There were numerous exceptions to any one of them, and the same condition might be produced by other causes. Hence they afford very unreliable testimony.

Among the recently-considered signs was mentioned that of Jacquemier,—the slate or purple color of the vagina. Anything which impedes the circulation may cause this appearance. Dr. Joseph Taber Johnson has made a good suggestion. He thinks the principle of the telephone could be used to hear much earlier than usual the feeble sounds of the foetal circulation. Dr. S. C. Dunn thinks he can diagnosticate pregnancy as early as the fourth week by the odor of the vernix caseosa upon the examining finger. Dr. E. C. Gehrung was able to make the diagnosis by the fifth or sixth week by the sen-

sation imparted upon touching the ovum with the sound. This is rightly condemned as dangerous practice, while it may be simulated by a polypus or other foreign body in the uterine cavity, and in the early weeks the ovum is attached only to parts of the uterine walls, and the sound may glide by it. Pinard and Didsbury have mentioned a gingivitis which begins about the second month. Jerrisenne, basing his observations on the law formulated by Graves that in hypertrophy of the heart the radial pulse remains the same whatever the position of the body, maintained that instead of the usual variation of from ten to twenty beats in the non-pregnant woman, the pulse of the impregnated woman remains the same. The essayist and others had investigated this symptom and found it quite unreliable. Dr. H. D. Fry thinks that a rise in temperature of the canal cervix to one degree or more above the temperature of the axilla is a strong presumptive evidence of impregnation, provided there is no local disease. The author had found this true, but had found the rise of temperature in the vagina to be of less value.

To Hegar of Freiburg we are indebted for the new sign of great promise which bears his name. This consists in an unusual resilience, compressibility, softness, bogginess, yielding, and thinning of the lower uterine segment: that is, the section immediately above the insertion of the ligamenta sacro-uterina. The shape assumed is that of a fan, balloon, or jug. The change is most apparent in the median line. According to Gempsa, the examination should be made as follows. The thumb is introduced into the vagina until it reaches the cervix, and the index-finger into the rectum until it reaches the ligamenta sacro-uterina; the other hand is placed over the abdomen immediately above the symphysis, and pressed down towards the finger in the rectum. The rectal finger explores the cervix and the lower uterine segment in all its parts, and lastly the higher parts of the uterus. The examination is facilitated by pulling down the uterus with the volsella and evacuating the bladder and rectum. The author thought this mode of examination thorough, yet repulsive to both patient and physician, as well as a difficult and hazardous procedure. He thought it quite possible in the majority of cases to make out all that is necessary with the finger in one of the culs-de-sac and the other hand externally. If this is not sufficient, it might be quite proper to make the examination as above described.

The bladder distended with urine and the uterus with menstrual blood may simulate Hegar's sign. These, however, can be easily excluded. Hyperplasia would show increased density; subinvolution would increase the longitudinal as well as the transverse diameter. In marked retroversion a careful



examination per rectum is often necessary to find the sign.

Dr. Reinl, formerly assistant to Hegar, says, "Among the twenty-two cases I missed this sign but twice, and found it earliest in the fifth week of pregnancy." Dr. Campos, present assistant to Hegar, has reported six cases. Dr. E. H. Grandin, of New York, reports eighteen cases, and says he can make the diagnosis prior to the eighth week by Hegar's sign alone. The author had a number of cases under observation, most of which had not yet had time to develop. One, a widow, acknowledged the opportunity and believed herself pregnant. Repeated examination failed to find Hegar's sign, and she was assured that she was not pregnant. After thirteen weeks the menses returned, and were normal in amount and duration. The other was a young wife, who, after a four months' absence from her husband, returned to him February 9. She soon came under the author's care, and her case required a digital and specular examination two or three times per week. Three times in the sixth week Hegar's sign was made out. March 31, forty-eight days after her return, she miscarried.

There remains to us, then, to lament again our inability in many cases to make a positive diagnosis of early pregnancy; to mourn the fallibility of many of the new and all of the old symptoms; to recommend especially the sign of Hegar, which until now has proved itself impregnable; and to plead for investigation in a field which should not be "barren or unfruitful" [whatever may be its effects upon the pregnant woman.—ED. P. M. T.].

Dr. C. R. Reed, of Middleport, Ohio, read a paper on

THE IMPERATIVE NECESSITY OF ABDOMINAL SECTION, AS ILLUSTRATED BY AN UNUSUAL CASE OF OVIOTOMY.

An oviotomy to attract the attention of the profession at present must be unique and have some features of peculiar interest. The essayist reported a case showing the necessity of operation, and claimed that the death of the patient would have been inevitable but for the abdominal section, which at once made the diagnosis clear and the treatment plain. The case suggested the following questions:

1. Was the ovarian cyst, with its attending adhesions to the descending colon, the cause of the obstruction of the bowels?
2. Would the exploring needle have made the diagnosis clear without abdominal section?
3. With the probability of the patient's dying under the operation, would it have been better practice to have tapped with the trocar and deferred the removal of the tumor?
4. As it has been shown by the large experi-

ence of Tait and others that abdominal section and exploration is, under antiseptic treatment, attended with little or no mortality, is it not the imperative duty of physicians to open the abdomen in all cases of doubtful diagnosis where general treatment has failed to relieve the symptoms?

5. In all cases of slight enlargement of the abdomen attended with intestinal obstruction, as in this case, should the physician wait until symptoms of apparent dissolution occur before resorting to abdominal section, and should the operation be performed as a means of diagnosis only when the symptoms are urgent?

Dr. Wathen, of Louisville, did not understand why the incision was lengthened from four to eight inches. He thought four sufficiently large. If we have a large, hard tumor or there are many adhesions, it becomes necessary to make a long incision. It is good surgery to make your incision only as large as is necessary. He did not understand why the ligature was left to hang through the lower angle of the uterus.

Dr. Van Emmon, of Kansas City, could not understand why the patient, having stercoraceous vomiting and enlarged abdomen, and threatened with death, had not had her case diagnosticated earlier. Also, why the doctor went into a laparotomy unprepared to make an ovariectomy if found necessary. He did not understand why the patient, unless an opium-eater, was given one-half grain of morphia hypodermically before the anæsthetic. He does not know from the report whether it was a monocyst or a polycyst, or, in fact, whether or not it was an ovarian tumor.

Dr. Joseph Eastman, of Indianapolis, arose to take the part of the gentleman who read the essay. The great question is, What is the physician to do in such emergencies? Practitioners are not in the habit of going about prepared for an ovariectomy. He differed from Dr. Wathen, and thought it was proper to leave the drainage by the lower uterine angle. The fact that the patient recovered is a sufficient justification of the means employed.

Dr. E. W. Cushing, of Boston, supported the last speaker and the essayist. It is an old saying that it is a good bridge that carries a man over. Better to make the opening large enough than to tear the intestines in getting it out. The gentleman is criticised for having no trocar. He was just in the mode. Schroeder and Martin do not use the trocar. They think it only one more instrument to be kept clean, and of no value.

Dr. Crouse, of Iowa, reported a case which was not an ovarian tumor. He and others diagnosticated a unilocular ovarian cyst. They found encysted peritoneal dropsy, probably malignant in character.

Dr. Reed replied that he had been called in consultation, saw the woman only three

minutes before he began to operate, and thought that under the circumstances he did the best that could be done.

Dr. J. F. Y. Paine, of Galveston, Texas, reported

**A REMARKABLE CASE OF CONGENITAL ABSENCE OF THE VAGINA AND DELIVERY PER ANUM.**

He was called in consultation by Dr. Sachs in an obstetrical case. He found an imperforate ostium vaginae, the vagina opening into the rectum, by which channel the menses had obtained their outlet and the child was born. The woman had not known that she was at all different from other women, and her husband was also unaware of the fact. They were married a year, and had both performed the sexual act with ease, comfort, and gratification.

Dr. Willis P. King, of Sedalia, Missouri, made a few remarks on

**PELVIC INFLAMMATIONS AND ACCUMULATIONS.**

He spoke of the two classes of inflammation, septic and non-septic. He thought most practitioners kept a foci for septic matter in the "hand-grease" in their office: they put this on the finger or sound and pass it into the vagina or uterus, thus carrying in the septic matter. It is better to dip the cotton-wrapped probe into the bichloride solution before passing it into the womb. The proper place to open pelvic accumulations is the lowest point, which is in the vagina.

Dr. George F. French, of Minneapolis, showed a simple device to take the place of a retention catheter: it was made from a rubber tube, and could be made by any one in a few moments. He hoped the gentlemen would try the instrument, and find it of as much use as he had. He had had dangerous hemorrhage from the use of a very small knife. The common insufflator he did not like, because it sucked in the water from the parts and when next used threw it out as septic matter. He recommended the insufflator used by aurists.

Dr. Potter, of Buffalo, recalled his paper read before this Section one year ago on this subject. He spoke of an excellent insufflator shown him by Dr. Gehrung, of St. Louis.

Dr. Harvey, of Indianapolis, advised injections of peroxide of hydrogen.

Dr. S. C. Gordon, of Portland, Maine, thought the uterine sound the most common cause of uterine inflammation. The prevention of the accumulation, he said, was much better than its treatment. He uses no arterial sedatives in inflammation. He believes, with Drs. King and French, that the earlier you evacuate the better.

Dr. W. D. Haggard, of Nashville, Tennessee, urged prophylaxis. He believed the introduction of the sound not unfrequently produces inflammation. If we are more guarded

with the use of the sound we will have less inflammation. He asked especially the younger members of the profession to be sure that there was no uterine inflammation: we use intra-uterine medication too frequently.

Adjourned.

**THE AMERICAN CLIMATOLOGICAL ASSOCIATION.**

**T**HE Third Annual Session was held at the hall of the College of Physicians, Philadelphia, May 10 and 11, 1886.

The meeting was called to order at 3 P.M. by the President, William Pepper, M.D., LL.D., of Philadelphia.

The President delivered an address

**ON THE CAUSES AND DISTRIBUTION OF CONSUMPTION IN PENNSYLVANIA.**

In reference to the city of Philadelphia, it was said that in a period of twenty-six years it was found that there had been sixty thousand fatal cases out of a total of four hundred thousand deaths, the rate for each year being quite uniform. The rate among negroes was more than twice that of the general population. Among the foreign population the death-rate was also in excess of the people at large. Deducting the deaths among negroes and foreigners, the true mortality among the American race in Philadelphia is much lower than is commonly believed. The percentage of deaths from consumption, as compared with the total number of deaths, is by this method nine and one-half per cent., as contrasted with fourteen per cent., the rate when all classes are included.

A. L. Loomis, M.D., of New York, read a paper on

**THE EFFECT OF HIGH ALTITUDES ON CARDIAC DISEASE.**

He described six illustrative cases out of a total of twenty-six coming under his observation.

Dr. Loomis then went on to say that in all the cases coming under his observation the ventricular dilatation was unquestionably the cause of the sudden development of distressing symptoms, and that the commencement of the fatal issue seemed to be directly due to the effects on the cardiac circulation of a change from a lower to a higher altitude.

The probable explanation of these cases was then considered, the speaker first referring to the nervous supply of the heart. The quality of the atmosphere which is probably the only operative one under these circumstances is the diminished density. The method in which this acted was then referred to.

The two important factors which lead to permanent cardiac insufficiency are, first, the condition of pulmonary distention consequent upon rarefaction of the atmosphere, and,

second, the resultant condition of the circulating blood.

If the explanation of the effects of high altitude upon the cardiac circulation be accepted, the risk which one with even slight cardiac insufficiency runs by passing from a lower to a higher altitude is certainly very great, and, if the insufficiency is extensive, such changes become immediately dangerous. It must be remembered that cardiac insufficiency may exist in those who give no evidence of it.

Dr. Frank Donaldson, of Baltimore, read a paper entitled

A PRELIMINARY ACCOUNT IN REGARD TO CIRCULATORY AND RESPIRATORY CHANGES OBSERVED IN ANIMALS PLACED IN THE PNEUMATIC CABINET.

The experiments had been performed by Professor H. N. Martin, of Johns Hopkins University, and the writer. The animals employed were rabbits which had been chloralized. It was found—

I. When the animal is breathing air from outside of the cabinet, rarefaction of air within the cabinet causes a marked fall of general arterial pressure, but has no influence on the pulse-rate. The fall of pressure lasts only a short time (ten to twenty seconds), and is often followed by a temporary rise above the normal.

II. This fall of systemic arterial pressure depends on two factors,—greater flow of blood to the skin when the air around the animal is rarefied, and greater accumulation of blood in the lungs when they are distended.

III. Of these two factors, accumulation of blood in the lungs is the more effective, for if the animal breathes air from the cabinet and not from the outside, rarefaction of the air within the cabinet (in this case accompanied by no special expansion of the thorax) has but a trivial effect in lowering arterial pressure.

IV. When the animal is breathing external air, rarefaction of the air within the cabinet usually has no effect upon the respiratory rate nor upon the extent of individual respiratory acts unless the fall of blood-pressure be considerable. If it be considerable, symptoms of anæmia of the medulla oblongata show themselves. In some cases there is more forcible dyspnoëic breathing, and in some dyspnoëic convulsions similar to those which occur when an animal is bled to death, and due to the same cause,—viz., deficient blood flowing through the respiratory centre.

V. The rapid recovery of general arterial pressure while the animal is still in a rarefied atmosphere, but breathing external air, is probably due to excitation of the vaso-motor centre, which, as is well known, is excited whenever the blood-supply is defective.

VI. The brain, enclosed in a rigid box, which is practically unaffected by variations in the atmospheric pressure, has its circula-

tion more disturbed in the pneumatic cabinet than any other organ, with the exception of the lungs.

VII. Compression of the air within the cabinet while the lungs are in communication with the external air causes a considerable transient rise of blood-pressure. This is probably mainly due to the forcing of the blood from the cutaneous vessels; but there has not yet been sufficient time to investigate this point thoroughly.

VIII. Compression of air within the cabinet while the lungs are in communication with the external air slows the pulse as the arterial pressure rises. This is probably due to excitation of the cardio-inhibitory centre by increased intra-cranial blood-pressure. Further experiments are, however, necessary before this can be positively stated.

IX. In certain cases, when the air within the cabinet is rarefied and the animal is breathing external air, the respiratory movements cease altogether for several seconds. As to the cause of this physiological apnoea we are not yet ready to form an opinion. It may be due to extra accumulation of air in the alveoli of the lung, or to distention of the lungs exciting those fibres of the pneumogastric which tend to check inspiration.

The speaker then laid down some practical rules for the use of the cabinet, based upon the results above given.

Discussed by Drs. Pepper, Bruen, and Hudson.

*Evening Session.*—Dr. H. F. Williams, of New York, read

A CLINICAL REPORT OF CASES TREATED BY PNEUMATIC DIFFERENTIATION.

With the assistance of Mr. Ketchum, the inventor of the apparatus, a demonstration of the working of the pneumatic cabinet was given.

The speaker then reported forty-five cases in addition to those previously reported, in which he had used the cabinet as a method of treatment. Sixteen cases were reported in detail.

This was followed by a paper by Vincent Y. Bowditch, M.D., of Boston, entitled

TEN MONTHS' EXPERIENCE WITH PNEUMATIC DIFFERENTIATION.

The speaker endeavored to give the clinical results of the treatment in twenty-seven cases since June 30, 1885. Pulmonary phthisis in its tubercular and non-tubercular forms, bronchitis in its acute and chronic forms, with and without emphysema or asthma, and retraction of the lung from long-standing pleuritic effusions, were the diseases which he had treated in the pneumatic cabinet. His experience was such that, although he had been unable to accomplish thus far such brilliant results as some others had claimed, yet he felt convinced of the very marked beneficial

effect of the cabinet in many cases where other means had failed to give relief, and of its curative power in one case of incipient tubercular trouble, and he looked forward with hope to what may be done in the future with this new method of treatment. The speaker said his chief desire was that the profession should investigate the matter thoroughly and with fairness and publish their results, for by this means only can a just estimate of the treatment be established. He felt that it should be intrusted only to a physician's care or to that of a reliable assistant, and that if placed in hospitals the most accurate methods of recording cases should be insisted upon before allowing the cabinets to be used. Carelessness of investigation in the present state of its existence might do infinite harm to a method which may prove, when properly used, of great service.

Dr. I. H. Platt, of Brooklyn, New York, read a paper on

#### THE PHYSICS AND PHYSIOLOGICAL ACTION OF PNEUMATIC DIFFERENTIATION.

Pneumatic differentiation is the process by which the air surrounding the body and that entering the lungs is rendered of different densities. There are three forms, which, for convenience, may be designated positive, negative, and alternative. I propose to consider chiefly positive differentiation, which is the form in which the air surrounding the body is of less pressure than that entering the lungs. The apparatus introduced to the profession by Dr. Williams and known as the pneumatic cabinet is the most convenient for applying this treatment. As the difference in pressure used is very slight, seldom exceeding that indicated by a fall of one inch of the mercurial column, the absolute change in air-pressure is an insignificant factor, the essential element being the differentiation.

The effect of reduced air-pressure upon the periphery of the body is to increase the expansion of the thorax in inspiration and to diminish its contraction in expiration, consequently to increase the amount of residual air. By the increased pressure in the lung it will tend to exsanguinate them and to raise the arterial blood-pressure in the general circulation.

Two of the claims put forward by Dr. Williams and Mr. Ketchum I believe to be unfounded. The first is, that the effect of removing a slight degree of pressure from the periphery of the body is radically different from that of increasing the pressure of the air entering the lungs,—the former acting as a *vis a fronte*, the latter as a *vis a tergo*. One of the most elementary principles of physics teaches that suction is not a force operating from in front, but is merely the removing the pressure from one side of a body and allowing the undiminished pressure to act upon the other side. It makes no difference whether pressure is

taken from the outside of the thorax or added to the inside: in either case it is the unbalanced pressure that causes the increased expansion. The other proposition which I combat is, that the spray or vapor used in conjunction with the differential process can be carried farther into the air-passages or more thoroughly condensed upon them than a spray or vapor could be under normal conditions. They cannot be carried so far for the reason that the residual air is increased, and consequently the inspired air which carries the vapor or spray cannot penetrate so far. It is claimed that the vapor of medicinal substances is condensed in the lungs during the differential process by the compression consequent upon the commencement of the expiratory act. This is impossible: first, because compression only acts to condense a saturated vapor, and the air-passages cannot be saturated with the vapor of a medicinal substance, and, secondly, because no greater compression is produced at the commencement of the expiration under the influence of differential pressure than under other circumstances. Such compression as does occur is due to the resistance offered by friction of the bronchial tubes and by the narrow opening of the glottis, and it is impossible that these should be affected by the differential pressure.

I believe that such benefit as results from the use of the cabinet is due mainly to the reduction of congestion in the lungs by the air-pressure within them, and by the increased expansion and movement of the lungs favoring their greater action and modifying their nutrition.

*Tuesday, Second Day, Morning Session.*—The First Vice-President, Dr. Frank Donaldson, of Baltimore, in the absence of the President, occupied the chair.

The Report of the Committee on Health-Resorts was received and ordered published in the Transactions.

The first paper, by Roland G. Curtin, M.D., of Philadelphia, was on

#### ROCKY MOUNTAIN FEVER.

The speaker, in the first place, referred to a communication received from Dr. D. G. Dougan, of Denver, Colorado, bearing upon this subject. The experience of Dr. Dougan had led him to regard all cases of mountain fever as belonging to one or another of the well-known already classified varieties. The cases, however, present variations from the usual course of the fevers to which we would assign them. Some of the cases are ephemeral in character and difficult of classification. The fever especially designated by the name mountain fever presents many features of typhoid fever. Some of the reasons for believing these cases to be an irregular or mild type of typhoid are that such cases are usually seen at the season of the year when typhoid fever is most prevalent, and they occur most commonly



under conditions favorable to the development of typhoid fever; not infrequently cases will present some characteristic feature of typhoid, leaving no doubt as to the diagnosis. In the high altitudes where mountain fever is said to occur, a large proportion of the cases of undoubted typhoid pursue a remarkably mild course. Dr. Dougan concluded with a protest against admitting mountain fever as a specific disease until its right to such a position had been proved by clinical and pathological researches.

In 1863, Dr. Curtin had seen in Wyoming Territory four cases which had been pronounced to be mountain fever. At some point in the disease all these cases had diarrhoea, and in one it was continuous. One of the patients died suddenly at the end of three weeks, but no autopsy was made; in one case there was a doubtful eruption; one of the cases had epistaxis in the beginning of the illness; tympanitis was more or less marked in all the cases. Dr. Curtin considered these cases to be typhoid or typho-malarial in character. Sometimes the cases belong, in all probability, to the class termed simple continued fever. The diagnosis of mountain fever was doubtless in large part the result of incompetency on the part of the observers, and the use of the term is continued largely as a result of fashion.

The opinion of other investigators was cited, all of whom expressed views similar to those given above.

The paper was discussed by Dr. Schauffler and Dr. Bell.

#### HOW THE THERAPEUTIC VALUE OF OUR MINERAL WATERS MAY BE INCREASED,

was the title of a paper by Dr. C. C. Rice, of New York.

The following conclusions were advanced:

1. Physicians should make a careful analysis of our mineral springs.
2. The medicinal values of the waters should be tested by clinical investigation, and the conclusions published for the benefit of the profession.
3. If the waters are found to present marked merit, the physician should interest himself in developing the springs, improving the bath-houses, etc.
4. Physicians in sending patients to the springs should be more careful to select the proper water, and should send with the patient the diagnosis and history of the condition, for the benefit of the physician at the baths.
5. The patient while at the baths should be under a more rigid medical discipline.
6. The social life of our watering-places should be reorganized.

The following papers, describing the climate of various places, were then read:

"The Climate of Mexico," by Dr. Didama, Syracuse; "The Southern Adirondacks," by

Edward T. Bruen, M.D., Philadelphia; "The Climate of El Paso, Texas," by Dr. E. W. Schauffler, Kansas City; "Southern Pine Park, a New Health-Resort in North Carolina," by Dr. A. N. Bell.

*Tuesday Afternoon: Business Meeting.*—The following officers were elected:

*President.*—Dr. Frank Donaldson, Baltimore.

*First Vice-President.*—Dr. V. Y. Bowditch, Boston.

*Second Vice-President.*—Dr. Roland G. Curtin, Philadelphia.

*Secretary and Treasurer.*—Dr. J. B. Walker, Philadelphia.

*Additional Member of Council.*—Dr. F. C. Shattuck, Boston.

*Elected to Membership.*—Dr. F. Donaldson, Jr., Baltimore; Dr. G. R. Butler, Brooklyn; Dr. W. Matthews, U.S.A.; and Dr. J. H. Musser, Philadelphia.

The following Memorial was presented by Dr. J. Ewing Mears, Secretary of a Special Committee of the American Surgical Association, appointed to consider the proposition with reference to the establishment of a

#### CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

WASHINGTON, D.C., April 30, 1886.

#### To the President of the American Climatological Association:

In view of the fact that there are a number of special medical organizations now in existence in the United States, each having for its aim and attainment the advancement of the special department of medicine for which it was organized; and since the members of said special Societies are of the representative men of the profession in America, many of whom are at the same time Fellows or members of several of these special Societies, which double membership, if it may be so expressed, necessitates them, if desirous of attending two or more of the meetings of these special Societies the same year, to make as many separate trips from home, and often with much loss of time to themselves and inconvenience to their patients; therefore it appears necessary that some arrangement should be made with the different Societies as to a uniform time and place of holding their sessions, so that those members who wish to attend the meetings of more than one Association may be enabled to do so without useless expenditure of money or unnecessary loss of time.

An extended correspondence, together with personal conference with many of the most prominent of the Fellows of this and other of the Associations, has disclosed the fact that there is a decided and growing inclination to unite the various Societies into a common whole, whereby it would become a general organization, representative of the various special departments of the profession in America.

The plan proposed, and which is offered for consideration, is to unite the following-named Associations into a Congress based upon the outlines which are now to be explained: American Surgical Association, American Ophthalmological Association, American Otological Association, American Neurological Association, American Laryngological Association, American Gynecological Association, American Dermatological Association, American Climatological Association, and American Clinical and Pathological Association,—these Associations to be united under the name and style of "The Congress of American Physicians and Surgeons."

The plan of organization hereby submitted, and subject to any alterations or amendments which may be deemed wise and proper, is that each Society shall preserve its own name, constitution, and by-laws, elect its own officers and Fellows, hold its own sessions apart from the others at the time and place of meeting, publish its own Transactions, and do all other acts which, by virtue of its constitution and by-laws, it has the inherent right to do, thus preserving its own autonomy.

The Congress to be composed of these special Societies when in convention, and its meetings to be held annually in the city of Washington,—the most appropriate place for the assembling of such an organization. The constitution and by-laws of the Congress to be formed by a committee composed of a like number chosen from each separate Society; the opening session of each annual meeting of the Congress to be devoted to such general business as may pertain to the interest of the Association as a whole; the Congress to be presided over by a President, elected annually, who shall deliver the opening address upon the first day of the session; the manner of choosing the President to be as follows: by a nominating committee composed of one member elected from each special Association, or otherwise, as may be determined upon by the special Society itself; this committee nominating one or more candidates for the office of President, whose election is to be by ballot on the last day of the annual session, and in a convention of all the Societies assembled; the Presidents of the special Societies to become *ex-officio* Vice-Presidents of the Congress; membership in the Congress to be acquired only by virtue of Fellowship in one or another of the special Associations; other officers of the Congress to be elected or appointed as may hereafter be determined upon by the Associations in convention.

These are the outlines of a union proposed for the consideration of the members of this Association, which, if it should meet their approval, can be submitted to the action of the Societies which have been mentioned. It was suggested that the Chair appoint a committee of five to bring the subject before the next

special Association which meets this spring or coming summer, and which, in the event of a concurrence of opinion on the part of said Society, shall act in concord with their committee appointed to confer with the other Societies, in the order of their meetings. This Enlarged Committee to report at a convention of all the Societies, which shall be requested to hold their next annual meetings at the same dates in the month of June, 1888, in the city of Washington.

To avoid any confusion as to the time of next meeting, each Society (this year) could adjourn to meet in June, 1888, leaving the date to be fixed by the Enlarged Committee after their work of conference had been finished, it then being only necessary to apprise the Secretaries of the respective Associations, who will give notice to the various Fellows or members.

This proposition is the result of calm consideration, and has been approvingly endorsed by quite a number of the representative gentlemen of the profession both in and out of this special Association.

The plan proposed is simply to unite into one great body the already-existing special Societies, and it is proposed from the honest conviction that such a union will prove of inestimable benefit to them individually and collectively.

The special committee appointed by the American Surgical Association to consider the above memorial reported that it viewed with great satisfaction the perfection of a plan through which the meeting of the Associations above named in the city of Washington at the same time of the year may be accomplished, and the meeting of all the Associations in general assembly on such days as may be determined, for the purpose of delivering of addresses upon general subjects in medicine, such meetings to be held without any formal organization through which the Associations meeting will sacrifice their autonomy.

To accomplish these purposes the committee offers the following resolution:

*Resolved*, That a committee of five Fellows of this Association be appointed, which shall be authorized to confer with committees of other associations interested in the adoption of a plan of a convention as hereinbefore stated, and report upon the same at the next meeting for the action of the Association."

The resolution was adopted, and the following committee was appointed in accordance therewith: C. H. Mastin, M.D., Mobile, Chairman; C. T. Parkes, M.D., Chicago; J. Ford Thompson, M.D., Washington; N. Senn, M.D., Milwaukee; J. Ewing Mears, M.D., Philadelphia, Secretary.

A committee, to be announced later, was appointed to confer with committees of other special organizations.

Dr. Henry Baker, of Lansing, Michigan, read a paper on

## THE CAUSATION OF PNEUMONIA.

The conclusions reached by the author were based upon a series of investigations continued over a period of eight years. The observations were in regard to the relation of meteorological conditions and the occurrence of pneumonia. These led to the conclusion that pneumonia was directly or indirectly associated with a comparatively low temperature. Cold air contains but little moisture; but as it is warmed in the lungs the capacity for moisture is increased, and its demand for water is increased. The fluid exhaled contains chloride of sodium, which is deposited in the air-cells, greatly increasing the salinity of the liquid present. The salt is irritating, and this may be one influence in the production of pneumonia. The presence of the increased salinity probably favors the exudation into the lungs of the albuminous constituents of the blood.

Dr. J. H. Musser, of Philadelphia, read a paper entitled

## SUGGESTIONS REGARDING THE PREVENTION OF PHTHISIS IN MILL-HANDS.

The speaker stated that it was rather to prevent that state of the system which often leads to phthisis that he desired to make some suggestions. The suggestions more particularly referred to factory-laborers. He showed that states of ill health were common in this class of artisans, and asserted that it was very largely due to an inadequate supply of food, which was improperly selected and prepared, and to carelessness in attention to digestion. This cause obtained more largely than bad hygienic surroundings or than the occupation itself.

If this be true, the remedy proposed was to have the plan of the Willimantic Cotton Company used by all mill-proprietors. That company has proved by experience and careful calculation that it pays them in quality and quantity of work done to supply milk to their boys and bouillon to their women twice daily, and that the health of the operatives is promoted and their lives prolonged thereby. Dr. Musser trusted that the members of the Society could influence proprietors to adopt this plan, and thereby close one of the avenues to disease and death.

Dr. C. L. Dana, of New York, read a paper entitled

## A STATISTICAL INQUIRY REGARDING THE RELATION OF HIGH ALTITUDES TO NERVOUS DISEASES.

The speaker presented the results of inquiries made at his request of twelve physicians living in Colorado Springs, regarding the effects of high climates on the nervous system in health and disease. The majority thought that chorea in children was more frequent there than in lower altitudes; that the climate was bad for nervous women. The high alti-

tudes do not necessarily injure epileptics, and in anæmic cases might cause improvement. Insomnia dependent upon anæmia and malnutrition was benefited and generally cured. The climate has no specific influence for good upon diseases of the spinal cord, but rather, if anything, the contrary. The speaker was of the opinion that high altitudes had a tendency to excite lithæmia and arthritism, with consequent irritating effects upon the nerve-centres. The best effects of the climate were seen in anæmic insomnia, neurasthenia, and melancholia.

Dr. G. R. Butler, of Brooklyn, read a paper on "Mitral Stenosis," giving the histories of fourteen cases.

The President announced as the committee to confer with the committees of other special societies with reference to the establishment of a Congress of American Physicians and Surgeons: Dr. A. L. Loomis, New York; Dr. F. Donaldson, Baltimore; Dr. F. C. Shattuck, Boston; Dr. E. T. Bruen, Philadelphia; and Dr. W. W. Johnson, Washington.

It was resolved to appoint a committee of three, with Dr. C. C. Rice as chairman, to investigate the therapeutical properties of the different mineral springs.

After passing a vote of thanks to the College of Physicians for the use of its hall, the Society adjourned *sine die*.

## NEW REMEDIES AND CLINICAL NOTES.

## SUICIDE DURING INSANITY NOT A FELONY.

—A recent suit against an Accident Insurance Company brought up a question of great importance. It was whether the representatives of a man who committed suicide could recover on a policy which expressly excepted liability in a case of the kind. The case would seem to be a clear one in favor of the company; yet most suits involving the point are decided in favor of the suicide. It is generally the case that suicides are insane, or, at least, there are sufficient circumstances to lead a jury, usually favorable to the plaintiffs, to assume that the deceased was insane. If insanity is proved, the courts hold that the exception in the policy does not apply. In the case specially referred to, the court (Judge Dyer, of Wisconsin) held that "the act of suicide was no more the man's act in the sense of the law than if he had been impelled by an irresistible physical power."

## MISCELLANY.

INTERNATIONAL MEDICAL CONGRESS.—The Executive Committee has nominated the following as officers of the Congress of 1887:

*President*.—Nathan S. Davis, of Chicago, Illinois.

**Vice-Presidents.**—William O. Baldwin, Alabama; William Brodie, Michigan; W. W. Dawson, Ohio; E. M. Moore, New York; Tobias G. Richardson, Louisiana; Lewis A. Sayre, New York; J. M. Toner, Washington, D.C.; the President of the American Medical Association; the Surgeon-General of the U.S. Army; the Surgeon-General of the U.S. Navy; the Supervising Surgeon-General of the U.S. Marine Hospital Service.

**Secretary-General.**—John B. Hamilton, of Washington, D.C.

**Treasurer.**—E. S. F. Arnold, of New York.

**Chairman of the Finance Committee.**—Fredrick S. Dennis, of New York.

**Presidents of Sections.**—

I. General Medicine: A. B. Arnold, Baltimore, Maryland.

II. General Surgery: William T. Briggs, Tennessee.

III. Military and Naval Surgery: Henry H. Smith, Pennsylvania.

IV. Obstetrics: De Laskie Miller, Chicago, Illinois.

V. Gynæcology: James H. Harrison, Virginia.

VI. Therapeutics and Materia Medica: F. H. Terrill, California.

VII. Anatomy: William H. Pancoast, Pennsylvania.

VIII. Physiology: J. H. Callender, Michigan.

IX. Pathology: A. B. Palmer, Michigan.

X. Diseases of Children: J. Lewis Smith, New York.

XI. Ophthalmology: E. Williams, Cincinnati, Ohio.

XII. Otology: I. J. Jones, Chicago, Illinois.

XIII. Laryngology: W. H. Daly, Pittsburgh, Pennsylvania.

XIV. Dermatology and Syphilis: A. R. Robinson, New York.

XV. Public and International Hygiene: Joseph Jones, New Orleans, Louisiana.

XVI. Collective Investigation, Vital Statistics, and Climatology: Henry O. Marcy, Boston, Massachusetts.

XVII. Pathological Investigation and Nervous Diseases: John P. Gray, Utica, New York.

XVIII. Dental and Oral Surgery: Jonathan O. Taft, Cincinnati, Ohio.

**PERSONAL.**—Dr. Edward Curtis has resigned from the chair of Materia Medica and Therapeutics in the College of Physicians and Surgeons, New York, and Dr. George L. Peabody has been elected as his successor.

THE first number of a large double-column sixteen-page journal, entitled the *New York Medical Monthly*, has come to hand. J. Leonard Corning, M.D., is its editor, and there is a goodly list of contributors. It has not been published "to meet a long-felt want," but proposes to create such a want by original

methods and good work. The price is one dollar per annum.

DR. DUDLEY S. REYNOLDS, of Louisville, Kentucky, will begin the publication about the 15th of June of a monthly medical journal in the interest of students, to be styled *Progress*. It will beyond question be a live journal, and we wish it success.

## OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM MAY 9, 1886, TO MAY 22, 1886.

MAJOR DAVID L. HUNTINGTON, SURGEON.—Ordered to proceed from this city to David's Island, New York Harbor, on public business connected with the reconstruction of the present hospital building at that depot, or the erection of a new one. On completion of this duty, to rejoin his station. S. O. 109, A. G. O., May 10, 1886.

CAPTAIN F. W. ELBREY, ASSISTANT-SURGEON.—Sick-leave of absence still further extended one year, on surgeon's certificate of disability. S. O. 115, A. G. O., May 17, 1886.

CAPTAIN JAMES A. FINLEY, ASSISTANT-SURGEON.—Ordered for duty at Fort Buford, Dakota Territory. S. O. 39, Department of Dakota, May 5, 1886.

CAPTAIN WILLIAM F. CARTER, ASSISTANT-SURGEON.—Granted leave of absence for one month, to take effect about June 1, with permission to apply for an extension of one month. S. O. 55, Department of Texas, May 11, 1886.

CAPTAIN JOHN M. BANISTER, ASSISTANT-SURGEON.—Assigned to duty as post-surgeon, Fort Canby, Washington Territory. S. O. 75, Department of Colorado, May 8, 1886.

CAPTAIN R. B. BENHAM, ASSISTANT-SURGEON.—Ordered to Department of the Platte. S. O. 109, A. G. O., May 10, 1886.

FIRST-LIEUTENANT C. B. EWING, ASSISTANT-SURGEON.—Relieved from duty at Fort Leavenworth, Kansas, and ordered for duty as post-surgeon, Fort Supply, Indian Territory. S. O. 45, Department of Missouri, May 13, 1886.

CAPTAIN A. V. CHERBONNIER, MEDICAL STOREKEEPER U.S. ARMY.—Granted leave of absence for four months, with permission to apply for four months' extension. S. O. 109, A. G. O., May 10, 1886.

LIST OF CHANGES IN THE MEDICAL CORPS OF THE U.S. NAVY FROM MAY 9, 1886, TO MAY 27, 1886.

SURGEON J. F. BRANSFORD.—Invalided home from Pacific Station.

SURGEON GEORGE F. WINSLOW.—Ordered, June 1 proximo, to the U.S.S. "Atlanta."

PASSED ASSISTANT-SURGEON A. C. HEFFINGER.—Detached from the Navy-Yard, Portsmouth, New Hampshire, and ordered to U.S.S. "Atlanta" June 1.

SURGEON H. L. LAW.—Ordered to the U.S.R.S. "Wabash."

SURGEON J. A. HAWKE.—Detached from U.S.R.S. "Wabash" and await orders to sea.

ASSISTANT-SURGEON F. N. OGDEN.—Detached from U.S.S. "New Hampshire" and await orders.

ASSISTANT-SURGEON J. W. BAKER.—Ordered for examination preliminary to promotion.

CHARLES E. WOODRUFF.—Commissioned Assistant-Surgeon in the Navy May 17.

CHARLES P. HENRY.—Commissioned Assistant-Surgeon in the Navy May 18.